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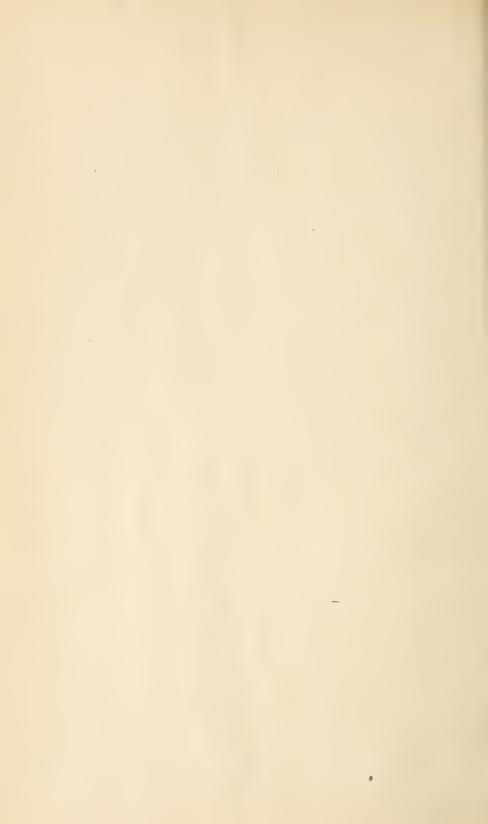
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BULLETIN No. 23.

3972

U. S. DEPARTMENT OF AGRICULTURE. OFFICE OF EXPERIMENT STATIONS.

75

ORGANIZATION LISTS

OF THE

AGRICULTURAL EXPERIMENT STATIONS

AND

INSTITUTIONS WITH COURSES IN AGRICULTURE

IN THE

UNITED STATES.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

JANUARY, 1895.

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GOVERNMENT PRINTING OFFICE.
1895.

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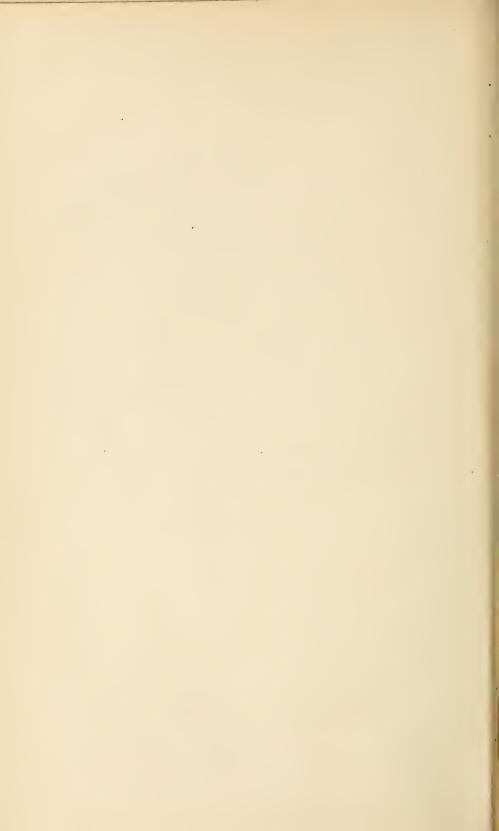
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LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
Washington, D. C., February 1, 1895.

SIR: I have the honor to transmit herewith, for publication, Bulletin No. 23 of this Office.

Respectfully,

A. C. TRUE,

Director.

Hon. J. Sterling Morton, Secretary of Agriculture.

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LIST OF ABBREVIATIONS.

Agr., Agriculture, Agriculturist, Agricultural.

Anal., Analytical.

Anat., Anatomy.

Arbor., Arboriculture, Arboriculturist.

Assoc., Associate.

Asst., Assistant.

Astron., Astronomy.

Bact., Bacteriology, Bacteriologist.

Biol., Biology, Biologist, Biological.

Bot., Botany, Botanist, Botanical. Chair., Chairman.

Chem., Chemist, Chemistry, Chemical.

Dept., Department.

Dir., Director.

Econ., Economy, Economic.

Elect., Electrical, Electricity.

Engin., Engineer, Engineering.

Ent., Entomology, Entomologist.

Expt., Experiment.

For., Forestry.

Geol., Geology, Geologist, Geological.

Gov., Governor.

Hist., History.

Hort., Horticulture, Horticulturist.

Instr., Instructor.

Irrig., Irrigation.

Lab., Laboratory.

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Lib., Librarian.

Lit., Literature.

Math., Mathematics.

Mech., Mechanics, Mechanical.

Met., Meteorology, Meteorologist.

Mil., Military.

Min., Mineralogy, Mineralogist.

Myc., Mycologist.

Phys., Physics, Physicist, Physical.

Physiol., Physiology, Physiological. Physiologist.

Polit., Political.

Prep., Preparatory.

Pres., President.

Priu., Principal.

Psych., Psychology.

Rhet., Rhetoric.

Sci., Science.

Sec., Secretary.

Sta., Station.

Sten., Stenographer, Stenography.

Supt., Superintendent.

Treas., Treasurer.

Univ., University.

V. Dir., Vice Director.

Vet., Veterinary, Veterinarian.

Vit., Viticulture, Viticulturist.

Zool., Zoology, Zoologist.

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- A. S. Wheeler, M. A., Instr. German.
- Mark Bailey, M. A., Instr. Elocution.
- John H. Niemeyer, M. A., Drawing.
- W. H. Bishop, B. A., Instr. French and Spanish.
- J. S. Pettit, Capt., U. S. A., Mil. Sci. Charles E. Beecher, Paleontology.
- S. E. Barney, C. E., Instr. Math. and Civil Engin.
- L. V. Pirsson, Ph. B., Instr. Geol. and Lithology.
- F. E. Beach, Ph. D., Asst. in Phys.
- W. W. Nichols, M. E., Instr. Mech. Engin. W. L. Cross, Ph. D., Instr. English.

- A. Guyot Cameron, Ph. D., Asst. French.
- A. J. Wakeman, Ph. D., Instr. Anal. Chem.
- W. A. Setchell, Ph. D., Instr. Biol.
- R. N. Corwin, PH. D., Instr. German.
- E. H. Lockwood, M. E., Instr. Dvaning and Mechanism.
- W. I. Lowe, B. A., Instr. History.
- F. R. Rich, Ph. B., Asst. German.
- J. C. Tracy, C. E., Instr. Civil Engin.
- G. P. Starkweather, M. E., Asst. in Drawing and Applied Mech.
- L. B. Mendel, Ph. D., Instr. in Physiol. Chem.
- H. A. Bumstead, B. A., Instr. Physics.
- W. R. Coe, Ph. B., Asst. in Biol.
- P. T. Walden, Ph. B., Instr. in Anal. Chem.
- M. A. Pond, Ph. B., Asst. in Drawing.
- F. M. Adams, Рн. В., Asst. in Phys.
- C. C. Wilson, B. A., Asst. in Mechanism. Theophilus Nelson, PH. B., Instr. Math.
- B. B. Boltwood, Ph. B., Asst. Chem.
- O. G. Bunnell, Ph. B., Asst. French.
- W. A. Granville, Ph. B., Instr. Math.
- W. T. H. Howe, Ph. B., Instr. Chem.
- C. A. Ingersoll, Ph. B., Asst. in Descriptive Geometry.
- Paul Klimpe, B. A., Instr. German.
- J. H. Pratt, Ph. B., Asst. in Min.
- A. H. Stevens, PH. B., Asst. Machine Designing.
- Loomis Burrell, PH. B., Asst. Chem.
- E. B. Hurlburt, Ph. B., Asst. Chem.
- W. G. Van Name, B. A., Asst. Physiol. Chem.

Storrs Agricultural College, Storrs.

COURSE OF STUDY.

The course of study requires two or four years for completion and in the latter case leads to a degree.

BOARD OF INSTRUCTION.

- B. F. Koons, Ph. D., Pres.
- Margaret Kenwill, Lady Prin.
- A. B. Peebles, B. S., Chem. and Math.
- C. S. Phelps, B. S., Agr.
- Geo. A. Waterman, D. V. M., Vet. Sci.
- A. G. Gulley, B. S., Bot. and Hort.
- C. A. Davis, Instr. Wood and Iron Work.
- L. J. Barber, Instr. Math. and English.
- E. J. Lewis, Rhet. and English Lit.
- Lottie J. Short, Domestic Sci.

DELAWARE.

Delaware College, Newark.

COURSES OF STUDY.

The courses of study are seven, and require four years each for completion: The classical course and the Latin scientific course, each leading to the degree of B. A.; the course in modern languages and science, leading to the degree of B. S.; the courses in engineering, leading to the degrees of C. E., M. E., and E. E.; and the agricultural course, leading to the degree of B. Agr. There are also a two years' course and a short winter course of thirteen weeks in agriculture.

BOARD OF INSTRUCTION.

A. N. Ranb, Ph. D., Pres.; English, Mental, Moral and Polit. Sci.

T. R. Wolf, Ph. D., Chem., Min., Sanitary Sei., and Gool.

G. A. Harter, Ph. D., Math. and Phys.

C. S. Conwell, M. A., Ancient and Modern Languages. C. L. Penny, M. A., German.

F. H. Robinsou, C. E., Civil Engin.

W. H. Bishop, B. S., Agr., Bot., and Physiol.

H. W. Huffington, Mech. and Elect. Engin.

H. P. Eves, D. V. S., Vet. Sci.

Lieut. J. H. Frier, Mil. Sci. and Taetics.

State College for Colored Students, Dover.

COURSES OF STUDY.

There are five courses of study: Classics, science, agriculture, engineering, and chemistry.

BOARD OF INSTRUCTION.

Wesley Welb, M. S., Pres.

S. L. Conwell, B. A., Asst.

L. D. Hilelaud, Instr.

FLORIDA.

Florida State Agricultural College, Lake City.

COURSES OF STUDY.

Besides a preparatory department there are four collegiate courses of study, each requiring four years for completion: The agricultural course, leading to the degree of B. S.; the mechanical course, leading to the degree of B. S.; the Latin scientific course, leading to the degree of B. A.; and the women's course, leading to the degree of B. S. These courses are equivalent in length, in difficulty, and in hour.

BOARD OF INSTRUCTION.

Oscar Clute, M. S., LL. D., Pres.

A. B. Hagan, Sec.

H. P. Baya, Math.

H. C. Powers, Drawing and Mech. Arts.

P. H. Rolfs, M. S., Biol. and Hort.

J. C. Martin, jr., M. A., Subcollegiate Dept.

A. A. Persons, M. S., Chem. and Agr.

C. V. Waugh, Philosophy and Ancient Lananages.

John B. Parkiuson, Penmanship, Bookkeeping, and Commercial Law.

Bessie C. De Sha, Shorthand, Typewriting, and Telegraphy.

S. A. Smoke, Lieut. U. S. A., Commandant of Cadets; Mil. Sci. and Tactics.

Helen K. Ingram, English and Hist.

Cordele K. Mooring, German and French.

J. Franklin Appell, M. D., College Surgeon.

E. J. Bending, Instr. Woodwork.

H. K. Miller, M. S., Instr. Phys.

A. L. Quaintance, M. S., Instr. Biol. Aurora Mena, Instr. Spanish

Florida State Normal School, Tallahassee.

COURSES OF STUDY.

The courses of study are four: Preparatory, normal, manual training, and agricultural.

T. DeS. Tucker, M. A., Pres.

T. V. Gibbs, Math.

D. W. Onley, Manual Training and Chem.

P. Von Weller, English.

C. B. Tueker, Dairying.

Alexander Cuppage, Agr.

T. W. Talley, M. A., Natural Sci.

M. L. Anderson, Domestic Econ.

Frederica F. Jones, M.A., Prin. Prep. Dept.

Mrs. F. Reynolds Keyser, Matron.

GEORGIA.

Georgia State College of Agriculture and Mechanic Arts, Athens.

COURSES OF STUDY.

There are two courses of study, requiring four years each for completion and leading to the degrees of B. S. and B. E.; one three years' course, leading to the degree of B. Agr.; graduate courses of one year each, leading to degrees of M. S., C. E., and M. Agr.; special courses in chemistry, mining and metallingy, in agriculture, in electrical engineering, and in building and architecture, in which certificates of attainment are given. There is also a short winter course in agriculture, comprising instruction in the English branches, agriculture, and dairying.

BOARD OF INSTRUCTION

H. C. White, Ph. D., Pres.; Chem.

L. H. Charbonnier, M. A., Ph. D., Phys.

C. P. Willcox, M. A., LL. D., Modern Languages.

B. F. Riley, M. A., English.

D. C. Barrow, jr., C. and M. E., Math.

C. M. Strahan, C. and M. E., Engin.

John P. Campbell, B. A., Ph. D., Biol.

J. H. T. MePherson, Pн. D., Hist.

J. B. Hunnicutt, B. A., Agr.

C. M. Snelling, B. S., (Adjunct) Math., Commandant.

C. H. Herty, Ph. D., (Adjunct) Chem.

A. H. Patterson, M. A., Instr Phys.

O. E. Sheffield, F. E. I'ser. Drawing.

Juo, Morris, M. A., Instr. English.

H. J. Wing, Instr. Dairying.

ІДАЦО.

College of Agriculture of the University of Idaho, Moscow

COURSE OF STUDY.

The regular course in agriculture requires four years for completion and the elementary course two years.

BOARD OF INSTRUCTION.

F. B. Gault, M. S., Pres.; Logic, Polit. Econ., and Ethics.

J. E. Ostrander, M. A., C. E., Civil Engin. and Mech. Arts.

C. W. McCurdy, D. Sc., Chem.

W. K. Clement, Ph. D., Ancient and Modern Languages.

L. F. Henderson, Ph. B., Bot.

J. M. Aldrich, M. S., Zool.

C. P. Fox, M. AGR., Agr.

E. R. Chrisman, 2d Lient. U. S. A., Mil. Sci. and Tactics.

----, Min. and Metallurgy,

J. E. Bonebright, B. S., Instr. in Math. and Phys.

Harriet E. Cushman, Preceptress; Instr. in Lit.

S. Annette Bowman, Instr. Drawing.

Sarah E. Poe, B. L., Instr. in Prep. School.

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ILLINOIS.

College of Agriculture of the University of Illinois, Urbana.

COURSES OF STUDY.

The regular courses of study are two: The full course, requiring four years for completion and leading to the degree of B. S.; and a special course for farmers, beginning in January and continuing eleven weeks. Provision is also made for special students.

BOARD OF INSTRUCTION.

Andrew S. Draper, LL. D., Pres.
Eugene Davenport, M. S., Dean; Animal Husbandry.
Thomas J. Burrill, Ph. D., LL. D., Bot. and Hort.
Stephen A. Forbes, Ph. D., Zool.
Charles W. Rolfe, M. S., Geol.
Donald McIntosh, V. S., Vet. Sci.
Arthur W. Palmer, D. Sc., Chem.
Frank F. Frederick, Art and Design.
Samuel W. Parr, M. S., Applied Chem.
Daniel W. Shea, Ph. D., Phys.
David Kinley, Ph. D., Econ.

Samuel W. Parr, M. S., Applied Chem.

Daniel W. Shea, Ph. D., Phys.

David Kinley, Ph. D., Econ.

Daniel H. Brush, Capt. 17th Infantry, U.

S. A., Mil. Sci.

Katharine Merrill, B. A., English.

William O. Krohu, Ph. D., Psyeh.

Henry E. Summers, B. S., Physiol.

Edgar J. Townsend, Ph. M., Math.

Evarts B. Greene, Ph. D., Hist. Arthur H. Daniels, Ph. D., Philosophy. George W. Parker, Wood Working. Harry S. Grindley, D. Sc., Chem. George P. Clinton, M. S., Bot. T. Arkle Clark, B. L., English. Aliee M. Barber, M. S., Bot. Herman S. Piatt, M. A., French. Frank Smith, M. A., Zool. George W. McCluer, M. S., Hort. Henry Jones, Blacksmith. Harley E. Reeves, Mil. Sei. Ralph P. Smith, Рн. В., German. Peter Mogensen, B. S., Math. Helen E. Butterfield, M. L., English. Edward J. Lake, Art and Design. Fred. A. Sager, B. S., Phys.

William H. Vandervoort, M. E., Mech.

INDIANA.

School of Agriculture, Horticulture, and Veterinary Science of Purdue University, Lafayette.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION.

Jas. H. Smart, M. A., LL. D., Pres. Wm. F. M. Goss, M. S., Experimental Engin. W. C. Latta, M. S., Agr.

Moses C. Stevens, M. A., Higher Math.

Osear J. Craig, M. A., Ph. D., Polit. Econ. and Hist.

James Troop, M. S., Hort. and Ent.

Arthur L. Green, Ph. C., Dean School of Pharmacy.

Henry A. Huston, M. A., A. C., Agr. Chem.
Mrs. Emma Mont. MeRae, Lady Prin.;
English Lit.

Joseph C. Arthur, D. Sc., Vegetable Physiol. and Pathology.

Stanley Coulter, M. A., Ph. D., Biol.

Anna Von Holland, Modern Languages. Erastus Test, M. A., M. D., Math.

Winthrop E. Stone, M. A., Ph. D., Organic and Inorganic Chem.; Dir. Chem. Lab.

M. J. Golden, Practical Mech.

Chas. S. Plumb, B. S., Agr. Sci.

John J. Flather, Рн. В., М. М. Е., Mech. Engin.

Thos. G. Alford, M. A., Math. Alfred M. Amadon, M. A., Math.

Walter Jones, Ph. D., Anal. Chem. Harold B. Smith, M. E., Elect. Engin.

A. W. Duff, M. A., B. S., Phys. and Theory of Elect.

Fred Morley, C. E., Civil Engin.

A. W. Bitting, B. S., Vet. Sci.

Samuel W. Miller, 1st Lient. 5th Infantry, U. S. A., Mil. Sci. and Tactics.

Carolyn Gerrish, Instr. Elecution and English.

Abby Lytle, Instr. Industrial Arts.

W. K. Hatt, B. A., C. E., (Assoc.) Civil Engin.

W. E. Goldsborough, M. E., Elect. Engin. Geo. Spitzer, Ph. G., Instr. Pharmacy.

James D. Hoffman, B. M. E., Instr. Wood
Shop.

Julins Stuermer, Pn. G., Instr. Materia Medica.

Wm. P. Turner, Instr. Machine Work.

Chas. D. Peterson, B. C. E., Instr. Mech. Drawing.

Anna E. Baker, M. S., Instr. Wood Carving and Model Drawing.

Richard A. Smart, B. M. E., Instr. in Mech. Lab.

Wm. H. Test, M. S., Instr. in Chem.

Katherine E. Golden, M. S., Instr. in Biol. John E. Kolb, B. M. E., Asst. in Foundry and Forging.

E. E. Reynolds, B. M. E., Asst. Elect. Lab.

D. W. McKenney, B. M. E., Asst. in Wood-work.

A. L. Fulkerson, B. M. E., Asst. in Foun-

C. A. Baechtold, B. M. E., Asst. in Mech. Drawing.

Leonard D. Worden, Pn. G., Asst. in Pharmacy.

Benj. M. Hoak, Asst. in Pharmacy.

M. D. Strout, Asst. in Mech. Lab

Elizabeth Day Swan, Lib.

IOWA.

Iowa State College of Agriculture and Mechanic Arts, Ames.

COURSES OF STUDY.

The courses of study are eight: The course in agriculture, leading to the degree of B. Agr.; the course in veterinary science, leading to the degree of D. V. M.; the course in mechanical engineering, leading to the degree of B. M. E.; the course in civil engineering, leading to the degree of B. C. E.; the course in electrical engineering, leading to the degree of B. E. E.; the course in mining engineering, leading to the degree of B. M. E.; the course in sciences as related to the industries, leading to the degree of B. S., and the course for ladies, leading to the degree of B. L.

The veterinary course requires three years for completion; each of the others four years. There are also a two years' course and a short winter course in agriculture and dairying.

BOARD OF INSTRUCTION.

W. M. Beardshear, M. A., LL. D., Pres.; Psych. and Ethics.

M. Stalker, M. S., V. S., Vet. Sci.

J. L. Budd, M. H., Hort.

E. W. Stanton, M. S., Math. and Econ. Sci. Gen. J. R. Lincoln, Mil. Sci. and Mining Engin.

A. A. Bennett, M. S., Chem.

Herbert Osborn, M. S., Zool. and Ent.

L. H. Pammel, B. Agr., M. S., Bot.

Mrs. Eliza Owens, Domestic Ecan. James Wilson, Agr.

J. B. Weems, Pu. D., Agr. Chem.

Margaret Doolittle, B. A., English, Latin, and Rhet.

W. S. Franklin, M. S., Phys. and Elect. Engin.

G. W. Bissell, M. E., Mech. Engin.

A. Marston, C. E., Civil Engin.

Celia Ford, B. A., Preceptress; French and German.

I. W. Smith, B. S., M. D., Pathology, Histology, Therapeutics, and Comparative Anat.

Marie L. Chambers, Elecation; Dir. Music. W. H. Wynn, Ph. D., D. D., English Lit. and Hist.

C. F. Curtiss, B. AGR., (Asst.) Agr.

W. B. Niles, D. V. M., (Asst.) Vet. Sci.

W. H. Meeker, M. E., (Asst.) Mcch. Engin.

S. W. Beyer, B. S., (Asst.) Geol. and Zool.

N. E. Hansen, B. S., (Asst.) Hort.

T. Lenox, Instr. in Machine Shop.

L. B. Spiuney, B. M. E., Ass. in Mech. Engin. and Phys.

Minnie Roberts, B. L., Asst. in Math.

J. S. Chamberlain, M. S., Asst. in Chem. Julia Wentch, B. L., Asst. in Math.

Elmina Wilson, B. C. E., Asst. in Civil Engin.

A. R. Wake, D. V. M., House Surgeon.

G. L. McKay, Instr. in Dairying and . Cheese Making.

D. Nordstrum, Instr. in Carpentry.

A. A. Harter, Instr. in Blacksmithing. Flora Wilson, B. L., Lib.

Emma Pammel, Asst. in Chem. S. R. Fitz, Asst. in Chem.

Genevieve Westermann, Instr. in Piano and Organ.

Carrie Scott, Inst. Violin and Theory.

KANSAS.

Kansas State Agricultural College, Manhattan.

COURSES OF STUDY.

The regular course of study requires four years for completion and leads to the degree of B. S. Special and post-graduate courses are also provided. The degree of M. S. is given upon post-graduate study with satisfactory evidence of proficiency, after three years, in science and industrial arts.

BOARD OF IN-TRUCTION.

Geo. T. Fairchild, LL. D., Pres.; Logic and Philosophy.

G. H. Failyer, M. S., Chem. and Min.

E. A. Popenoe, M. A., Ent. and Zool.

D. E. Lantz, M. S., Math.

J. D. Walters, M. S., Industrial Art and Designing.

I. D. Graham, M. A., Sec.; Instr. Bookkeeping.

O. E. Olin, English Language and Lit.

Mrs. Nellie S. Kedzie, M. S., Household Econ. and Hygiene.

Mrs. Elida E. Winchip, Supt. Sewing.

O. P. Hood, B. S., Mech. and Engin.; Supt. Shops.

A. B. Brown, M. A., Music.

J. S. C. Thompson, Supt. Printing.

C. C. Georgeson, M. S., Agr.; Supt. Farm.

F. H. White, M. A., Hist. and Polit. Sci.

E. R. Nichols, M. A., Phys.

N. S. Mayo, M. S., D.V. S., Physiol. and Vet. Sci.

J. T. Willard, M. S., Chem.

A. S. Hitchcock, M. S., Bot.

S. C. Mason, M. S., Hort.; Supt. Gardens. Josephiue Harper, Instr. Math.

Alice Rupp, Instr. English.

H. M. Joues, B. A., Instr. Rhetoricals.

H. G. Cavenaugh, Capt. 13th Infantry, U. S. A., Mil. Sci. and Tactics.

T. E. Will, M. A., Polit. Econ.

Julia R. Pearce, B. S., Lib.

C. M. Breese, M. S., Asst. in Chem.

Laura G. Day, B. S., Asst. in Sewing.

Ruth T. Stokes, Asst. in House Econ.

Wm. Baxter, Foreman Greenhouse.

W. L. House, Foreman Carpenter Shop.

H. K. Brooks, Foreman Iron Shop.

L. A. McKeen, Foreman of Farm.

KENTUCKY,

Agricultural and Mechanical College of Kentucky, Lexington.

COURSES OF STUDY.

The regular courses of study are six, each requiring four years for completion: The agricultural course, leading to the degree of B. S.; the scientific course, leading to the same degree; the classical course, leading to the degree of B. A.; the mechanical engineering course, leading to the degree of M. E.; the civil engineering course, leading to the degree of C. E., and the normal course, leading to the degree of B. Ped. Certificates of proficiency are given to those who do not complete a course undertaken.

- J. K. Pattersou, Ph. D., Pres.; Metaphysics and Civil Hist.
- J. Shackleford, M. A., V. Pres.; English Language and Lit.
- J. G. White, M. A., Math. and Astron.
 Paul Wernicke. French and German Lan
- Paul Wernicke, French and German Languages and Lit.
- J. H. Neville, M. A., Latin and Greek Languages and Lit.
- J. H. Kastle, Ph. D.; Chem.
- R. N. Roark, B. A., Prin. Normal Dept.
- H. Garman, Zool. and Ent.
- C. W. Mathews, B. S., Agr., Hort., and Bot.
- J. P. Nelson, M. A., Civil Engin. and Phys.
- M. L. Pence, M. S., Phys.
- F. Paul Anderson, B. M. E., Mech. Engin.

- S. M. Swigert, Capt. U. S. A., Mil. Sci. J. W. Pryor, M. D., Anat. and Physiol.
- W. K. Patterson, Prin. Academy.
- J. L. Logan, B. A., Asst. in Academy.
- J. W. Newman, B. S., Asst. in Normal Dept.
- R. L. Blanton, M. Lit., Asst. in Greek and Latin.
- J. M. Davis, B. A., B. S., Asst. in Academy.
- V. E. Muncey, B. S., Asst. in Academy.
- J. H. Wells, B. M. E., Asst. in Mech. Engin.
- J. R. Johnson, B. M. E., Asst. in Mech. Engin.
- Mrs. Lucy B. Blackburn, Asst. in Academy.
- W. A. Patterson, B. S., Asst. in Hist.
- James Murray, Practical Hort.

State Normal School, Frankfort.

COURSES OF STUDY.

There are four courses of study. Normal course, agricultural course, mechanical course, and a course in domestic economy.

BOARD OF INSTRUCTION.

J. H. Jackson, M. A., Prin.

M A Donie Toucher

M. A. Davis, Teacher. Celia A. Hathaway, Teacher. Ida Joyce Jackson, Teacher. Lizzie E. Green, Teacher. J. S. Hathaway, M. A., Teacher.

LOUISIANA.

Louisiana State University and Agricultural and Mechanical College, $Baton\ Rouge.$

COURSES OF STUDY.

The regular courses of study are five, each requiring four years for completion: The course in agriculture, the course in mechanics and civil engineering, the Latinscientific, the general science, and the classical course, the first four reading to the degree of B. S., the last to the degree of B. A. A preparatory department and a two years' commercial course are also provided.

BOARD OF INSTRUCTION.

J.W.Nicholson, M. A., LL. D., Pres.; Math.W. H. Gordon, 1st Lieut. 18th Infantry,U. S. A., Mil. Sci. and Tactics.

W. W. Clendenin, M.A., M. S., Geol., Min., and Bot.

Charles E. Coates, jr., PH. D., Chem.

W. H. Goodale, Philosophy and Civics.

B. F. Hoffman, M. L., (Asst.) Languages. H. A. Morgan, B. S. A., Zool. and Ent.

- J. H. Randolph, jr., C. E., Drawing and Mech.
- E. L. Scott, M. A., Languages.

- C. A. Smith, M. A., Ph. D., English and English Lit.
- S. B. Staples, B. S., D. V. S., Vet. Sci.

William C. Stubbs, Ph. D., Agr.

D. N. Barrow, B. S., (Asst.) Agr.

F. H. Burnette, (Asst.) Hort.

W. D. Taylor, C. E., Phys. and Civil Lugin.

H. Skolfield, Instr. Bookkeeping.

C. E. Ives, B. A., Prin. Prep. Dept.

C. A. Ives, B. S., Instr. Prep. Dept.

C. K. Thompson, B. S., C. E., Instr. Prep. Dept.

R. G. Pleasant, B. A., Instr. Prep. Dept.

Southern University and Agricultural and Mechanical College, New Orleans.

COURSE OF STUDY,

The conrses in agriculture require two and four years for completion and lead to the degree of B. S.

BOARD OF INSTRUCTION.

H. A. Hill, Pres.; Math. Hugh Jamieson, Agr. William Seymour, Mech. L. M. Martinet, Bot. A. B. Kennedy, Econ. Sci. V. L. Roy, Chem. and Phys.
W. J. Nickerson, Music.
Chas. E. Roos, English.
E. E. Duncan, Prin. Girls' Industrial Section.

MAINE.

The Maine State College, Orono.

COURSES OF STUDY.

The courses of study leading to degrees are eight, each requiring four years. These are the scientific course, the civil-engineering course, the mechanical-engineering course, the electrical-engineering course, the agricultural course, the chemical course, the pharmacy course, the preparatory medical course. The course in civil engineering leads to the degree of B. C. E., the course in mechanical and electrical engineering to B. M. E., the other courses to B. S. The shorter courses leading to a certificate are as follows: The course in library economy of one year, the course in pharmacy of two years, and training courses of six weeks each, designed for farmers, in general agriculture, in dairying, and in horticulture.

BOARD OF INSTRUCTION.

Abram W. Harris, M. A., D. Sc., Pres. George H. Hamlin, C. E., Civil Engin. Alfred B. Anbert, M. S., Chem. Allen E. Rogers, M. A., Hist., Logic, and

Polit. Econ.
Walter Flint, M. E., Mech. Engin.

Whitman H. Jordan, M. S., Agr.

Francis L. Harvey, M. S., Ph. D., Natural Hist.

James N. Hart, C. E., Math. and Astron.

Howard S. Webb, B. M. E., Shop Work; Sec. and Registrar.

Fremont L. Russell, V. S., Vet.

Nathan C. Grover, C. E., Civil Engin.

Harriet C. Fernald, M. S., Lib. Welton M. Munson, B. S., Hort.

Horace M. Estabrooke, M. S., M. A., Rhet. and Modern Languages.

James S. Stevens, M. S., Ph. D., Phys.

Mark L. Hersey, M. A., Licut. 9th Infantry, U. S. A., Mil. Sci. and Tactics.

Gilbert M. Gowell, M. S., Animal Husbandry.

David W. Colby, B. S., Chem.

Ernest P. Chapin, B. M. E., Elect. Engin.

A. J. Durgin, Carpentry.

George P. Cowan, B. C. E., Civil Engin.

Frank Damon, Phys.

Wendell W. Chase, Drawing.

MARYLAND.

Maryland Agricultural College, College Park.

COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S.

R. W. Silvester, Pres.; Math.

H. B. McDonnell, M. D., Chem.

W. H. Zimmerman, M. A., Phys.; Instr. German.

R. H. Alvey, jr., B. A., English.

J. H. Grisard, 2d Lieut., U. S. A., Mil. Sci. and Tactics, Math., and Drawing.

H. G. Welty, C. E., Applied Math.

Jas. S. Robinson, Bot. and Hort.

M. P. Scott, M. D., Zool. and Comparative Anat.

Dr. Robert Ward, Tet.

Thos. H. Spence, Latin, French, and German.

W. T. L. Taliaferro, Agr.

H. M. Strickler, Phys. Culture.

F. P. Veitch, B. S., Asst. Chem.

F. B. Bomberger, B. S., Asst. Chem.

H. C. Sherman, B. S., Asst. Chem.

H. T. Harrison, Prin. Prep. Dept.

J. R. Owens, M. D., Registrar; Sec. and Treas. Faculty.

John D. Ford, Mech. Engin.

MASSACHUSETTS.

Massachusetts Agricultural College, Amherst.

COURSE OF STUDY.

The course of study requires four years and leads to the degree of B. S.

BOARD OF INSTRUCTION.

H. H. Goodell, M. A., LL. D., Pres.; Modern Languages and English Lit.

Levi Stockbridge, Agr.

C. A. Goessmann, Ph. D., LL. D., Chem.

S. T. Maynard, B. S., Bot. and Hort.

Charles Wellington, PH. D., (Assoc.) Chem.

C. H. Fernald, PH D., Zool.

C. S. Walker, Ph. D., Mental and Polit. Sci.

W. P. Brooks, B. S., Agr.

G. F. Mills, M. A., English.

R. W. Lyman, LL. B., Lecturer on Farm Law.

J. B. Paige, V. S., Vet. Sci.

E. R. Flint, Ph. D., Asst. in Chem.

G. E. Stone, PH. D., Asst. in Bot.

A. C. Washburne, Asst. in Math.

H. Babson, B. A., Asst. in English.

F. S. Cooley, B. S., Asst. in Agr.

R. S. Lull, B. S., Asst. in Zool.

R. E. Smith, B. S., Instr. in Bot. and Ger. W. M. Dickinson, 1st Lieut. 17th Infantry, U.S. A., Mil. Sci. and Tactics.

MICHIGAN.

Michigan Agricultural College, Agricultural College.

COURSES OF STUDY.

The courses of study are two, each requiring four years for completion and leading to the degree of B. S.—the agricultural course and the mechanical course. A postgraduate course is also provided.

BOARD OF INSTRUCTION.

L. G. Gorton, M. S., Pres.

R. C. Kedzie, M. A., M. D., Chem.; Curator Chem. Lab.

W. B. Barrows, B. S., Zool. and Ent.; Curator General Museum.

William J. Beal, M. S., Ph. D., Bot. and For.; Curator Bot. Museum.

E. A. A. Grange, V. S., Vet Sci

I. H. Butterfield, Sec.

Levi R. Taft, M. S., Hort and Landscape Gardening; Supt. Hort. Dept.

Howard Edwards, M. A., LL. D., English Lit. and Modern Languages.

C. L. Weil, B. S., Mech. Engin.; Div. Shops.

Herman K. Vedder, C. E., Math. and Civil Engin.

C. D. Smith, M. S., Agr.; Supt. Farm.

Edson A. Lewis, 2d Lieut, 18th Infantry, U. S. A., Mil. Sci. and Tactics.

Frank S. Kedzie, (Adjunct) Chem.

William S. Holdsworth, M. S., (Asst.) Drawing.

Philip B. Woodworth, B. S., M. E., (Asst.) Phys.

Alvin B. Noble, PH. B., (Asst.) English Lit. and Modern Languages.

W. O. Hedrick, B. S., (Asst.) Hist. and Polit. Econ.

F. B. Mumford, B. S., (Asst.) Agr.

C. C. Pashby, B. S., Instr. Math.

Warren Babcock, jr., B. S., (Asst.) Math.

P. M. Chamberlain, M. E., (Asst.) Meth.

D. J. Crosby, B. S., Instr. English.

A. L. Westcott, B. M. E., Instr. Mech. Engin.

G. C. Davis, M. S., Instr. Ent.

C. F. Wheeler, B. S., Instr. Bot.

R. C. Bradley, Asst. Sec.

H. M. Howe, Clerk.

C. E. Hoyt, Foreman Wood Shops.

E. A. Edgerton, Engin.

Mrs. Linda E. Landon, Lib.

Thomas Gunson, Foreman Greenhouses.

V. V. Newell, B. S., Foreman Iron Shops.

Ernst Wittstock, Foreman of Farm.

Thos. Durkin, Foreman of Gardens.

MINNESOTA.

College of Agriculture of the University of Minnesota, Minneapolis.

COURSE OF STUDY.

The course of study requires four years for completion, and leads to the degree of B. Agr.

BOARD OF INSTRUCTION.

Cyrus Northrop, LL.D., Pres.

W. M. Hays, B. S. A., Agr.

S. B. Green, B. S., Hort.

Otto Lugger, Ph. D., Ent.

Harry Snyder, B. S., Agr. Chem.

T. L. Haecker, Instr. Dairy Husbandry.

M. H. Reynolds, M. D., V. M., Fet. Sci.

Thos. Shaw, Animal Husbandry.

H. W. Brewster, Ph. D., (Asst.) Math.

MISSISSIPPI.

Mississippi Agricultural and Mechanical College, Agricultural College.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B.S. Post-graduate courses and a preparatory course are also provided.

BOARD OF INSTRUCTION.

S. D. Lee, Pres.

W. C. Welborn, B. S., Agr.

A. B. McKay, B. S., Hort.

A. J. Wiechardt, M. M. E., Mech. Arts.

G. C. Creelman, B. S. A., Biol.

Tait Butler, V.S., Vet. Sci.

W. L. Hutchinson, M. S., Chem.

W. H. Magruder, M. A., English.

B. M. Walker, M. S., Math.

C. L. Steele, 1st Lieut. 18th Infantry, U. S. A., Mil. Sci. and Tactics; Asst. Math.

Dabney Lipscomb, M. A., Psych, and Ethics; Prin. Prep. Dept.

S. M. Tracy, M. S., Dir. Expt. Sta.

J. S. Wier, B. S., Instr. Drawing and Blacksmithing.

W. R. Perkins, B. S., Asst. Chem.

E. L. Robins, B. S., Asst. Chem.

W. F. Hand, B. S., Asst. Chem.

J. M. White, M. S., Hist. and Civies; Asst. English.

J. T. Connell, B. S., Asst. English.

J. C. Herbert, M. S., Asst. Math.

J. S. Wallace, B. S., 1st Asst. Prep. Dept.

A. M. Maxwell, Instr. Writing and Bookkeeping.

R. C. King, B. S., Sec. and Purchasing Agent.

F. J. Weddell, B. S., Sten.

W. H. Barr, M. D., Surgeon.

E. A. Grosvenor, Hospital Nurse.

W. H. Gallaway, Steward and Proctor.

J. F. Montgomery, Foreman Farm.

C. T. Ames, B. S., Foreman Hort. Dept. S. L. Grinstead, Instr. Carpentry and Foundry Work.

Alcorn Agricultural and Mechanical College, Westside.

COURSES OF STUDY.

The course of study are three: The academic course of three years; the scientific preparatory course of two years, and the scientific course, requiring four years for completion and leading to the degree of B. S.

BOARD OF INSTRUCTION.

Thomas J. Calloway, B. A., Pres.

A. J. Howard, M. A., Math.

H. A. Clark, Polit. Econ., Bookkeeping and Rhet.

Joseph Anderson, M. A., Phys., Chem., and Hist.

H. L. Stiles, B. S., (Asst.) English Branches.

H. C. Ferguson, Instr. Agr.

B. F. Onsley, B. D., Instr. Biol.

C. A. Snodgrass, B. S., Instr. English Branches.

G. J. Williams, B. S., Instr. English Branches.

R. B. Swayze, Instr. English Branches.

J. B. Bemis, Instr. Carpentering.

W. Logan, Instr. Blacksmithing.

T. A. Greene, Instr. Printing.

A. J. Wade, Instr. Shoemaking.

· Nathau Bright, Steward.

MISSOURI.

College of Agriculture and Mechanic Arts of the University of Missouri, *Columbia.*

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. Agr. There are also two short courses—a farmers' lecture course of three months and a two years' elementary course. The college also offers a post-graduate course, which requires two years for completion, and leads to the degree of M. Agr.

BOARD OF INSTRUCTION.

R. H. Jesse, LL. D., Pres.

P. Schweitzer, Ph. D., Acting Dean.; Chem.

W. J. Quick, M. S., Agr.

J. C. Whitten, B. S., Hort.

E. A. Allen, L. D., English.

L. M. DeFoe, Pu. D., Math.

Howard Ayers, Ph. D., Biol.

M. L. Lipscomb, M. A., Phys.

S. A. Smoke, Lieut. U. S. A., Mil. Sci.

G. C. Broadhead, M. S., Geol. and Min.

Alexander Martiu, M. A., LL. D., Lecturer on Agr. Law.

C. W. Marx, B. E., Supt. School Mech. Arts.

A. H. Place, C. E., Drawing.

H. Van Blareom, Asst. in Mech. Arts.

M. S. King, Instr. Commercial School.

J. W. Connoway, M. D., D. V. S., Vet. Sci.

F. C. Hicks, Ph. D., Hist, and Polit. Sci.

MONTANA.

The Montana College of Agriculture and Mechanic Arts, Bozeman.

COURSES OF STUDY.

There are courses of study in agriculture, domestic economy, applied science, and business. The first three require four years each for completion and lead to degrees; the business courses require one and two years and lead to no degree. Preparatory work is also provided.

Rev. James Reid, B. A., Pres.; Mental, Moral, and Polit. Sci.

A. M. Ryon, M. E., Eugin.

S. M. Emery, Hort.

Luther Foster, M. S. A., Agr. and Bot.

F. W. Traphagen, Ph. D., F. C. S., Chem. and Natural Sci.

R. E. Chandler, M. E., Math. and Mech. Engin.

W. L. Williams, V. S., Vet. Sci., Physiol., and Zool.

B. F. Maiden, B. A., English; Prin. Prep. Dept.

A. G. Phelps, Prin. Business Dept.

Mrs. F. E. Marshall, Free-Hand Drawing and Wood Carring.

W. M. Cobleigh, M. E., Asst. Chem. and Phys.

Jennie Jones, Asst. Sten. and Typewriting.

NEBRASKA.

Industrial College of the University of Nebraska, Lincoln.

COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion and leading to the degree of B.S.: General scientific course, electrical and steam engineering course, agricultural course, and civil engineering course. One and two years' courses in elementary agriculture are also provided.

BOARD OF INSTRUCTION.*

James H. Canfield, M. A., LL.D., Chancellor.

C. L. Ingersoll, M. S., Dean; Agr.

H. H. Nieholson, M. A., Chem.

L. A. Sherman, PH. D., English Lit.

C. E. Bessey, Ph. D., Bot.

DeW. B. Brace, Ph. D., Phys.

E. W. Davis, Ph. D., Math.

J. J. Pershing, 1st Lieut. 10th Cavalry, U. S. A., Mil. Sci. and Tactics.

J. W. Adams, B. L., English.

H.W. Caldwell, M. A., American Hist. and Civics.

A. H. Edgren, Ph. D., Romance Languages. Laurence Fossler, M. A., Germanic Lan-

_aurence Fossler, M. A., Germanic L gnages. E. H. Barbour, Ph. D., Geol.

H. B. Ward, PH. D., Zool.

F. M. Fling, PH. D., European Hist.

W. G. Taylor, PH. D., Polit. and Econ. Sci.

F. W. Card, M. S., Hort.

R. B. Owens, E. E., Elect. Engin.

O. V. P. Stout, B. C. E., Civil. Engin.

Lawrence Bruner, Ent.

C. R. Richards, M. E., Manual Training.

R. A. Clark, B. A., M. D., Div. Gymnasium, Phys. Training.

G. E. Barber, M. A., Latin

Cora Parker, Instr. Clay Modeling and Wood Carving.

W. B. Hampsen, M. E., Mech. Drawing.

NEVADA.

School of Agriculture of the Nevada State University, Reno.

COURSE OF STUDY.

The regular course requires four years for completion and leads to the degree of B. S. A short course in agriculture is also provided, requiring five months of each year for four years and leading to no degree.

^{*}Includes only the principal instructors in the Industrial College. Other members of the university faculty also give some instruction in this college.

Joseph E. Stubbs, M. A., D. D., LL. D., Pres.

Hannah K. Clapp. M. A., Preceptress and

W. McN. Miller, B. S., Anat., Phys., and Gool.

R. D. Jackson, Ph. B., Mining, Metallurgy, and Assaying.

J. Warne Phillips, D. Sc., Chem. and Phys. E. H. Hillman, M. S. Ent. and Rot.

F. H. Hillman, M. S., Ent. and Bot. Mrs. Mary W. Emery, Pedagogy; Prin.

Frederick Stadtmiiller, B. S., Chem. and Phys.

Robert Lewers, Polit. Econ. and Commercial Law.

W. R. Hamilton, 1st Lieut. 5th Artillery, U. S. A., Mil. Sei. and Tactics, Math., and French.

R. H. McDowell, B. S., Agr. and Hort.

T. W. Cowgill, M. A., English.

Richard Brown, Supt. Mech. Dept.

Henry Thurtell, B. S., Mech. and Mech. Drawing.

James E. Church, jr., B. A., Instr. Latin.

NEW HAMPSHIRE.

New Hampshire College of Agriculture and the Mechanic Arts, Durham.

COURSES OF STUDY.

There are five courses of study, each requiring four years for completion, and leading to the degree of B.S.: Course in agriculture, course in chemistry, course in mechanical engineering, course in electrical engineering, and general course open to women.

BOARD OF INSTRUCTION.

C. S. Murkland, M. A., Ph. D., Pres.

Chas. H. Pettee, M. A., C. E., Dean; Math. and Civil Engin.

Clarence W. Scott, M. A., Hist. and Polit.

H. E. Alvord, Agr.

Normal Schoot.

Clarence M. Weed, D. S., Zool. and Ent.

Fred. W. Morse, B. S., Organic Chem. Heury C. Hodges, jr., 1st Lieut. U. S. A., Mil. Sci. Chas. L. Parsons, B. S., General and Anal. Chem.

Albert Kingsbury, M. E., Meeh. Engin.

H. H. Lamson, M. D., Biol. and Bact.

Geo. L. Teeple, M. E., Instr. Elect Engin and Phys.

R. W. E. Bassett, M. A., Instr. Modern Languages.

John N. Brown, Foreman Machine Work. Allen G. Lowell, Foreman Woodwork.

NEW JERSEY.

Rutgers Scientific School, New Brunswick.

COURSES OF STUDY.

There are five distinct courses of study: A course in agriculture, a course in civil engineering and mechanics, a course in chemistry, a course in electricity, and a course in biology. Each course requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION,

Austin Scott, Ph. D., LL. D., Pres.; Hist. and Polit. Sci.

Jacob Cooper, D. D., D. C. L., Logic and Mental Philosophy.

Carl Meyer, D. D., Modern Languages and Lit.

F. C. Van Dyck, Ph. D., Phys. and Experimental Mech.

E. A. Bowser, C. E., LL. D., Math. and Engin. Edwin B. Davis,* B. L., Inst. Modern Languages.

C. E. Hart, D. D., English Language and Lit.

Louis Bevier, jr., Ph. D., Greek; Sec. Extension Dept.

E. S. Shumway, PH. D., Latin.

A. A. Titsworth, M. S., C. E., Graphies and Math.

Julius Nelson, Ph. D., Biol.

B. D. Halsted, D. Sc., Bot. and Hort.

J. B. Smith, D. Sc., Ent.

E. B. Voorhees, M. A., Agr.

W. R. Duryee, D. D., Ethics, Evidences of Christianity, and English Bible.

A. H. Chester, M. E., Рн. D., D. Sc., Chem. and Min.; Curator Museum.

J. J. Brereton, 1st Lieut. 24th Infantry, U. S. A., Mil. Sci. and Tactics.

J. C. Van Dyke, L. H. D., History of Art.

R. W. Prentiss, M. S., Math. and Astron. E. R. Payson, Ph. D., History and Art of Teaching.

E. L. Stevenson, Ph. D., Hist.

I. S. Upson, M. A., Lib. and Registar; Sec. Faculty.

C. L. Speyers, Ph. B., (Assoc.) Chem.

Thomas Logie, Ph. D., (Assoc.) Romance Languages.

E. L. Barbour, Instr. Elocution.

W. E. Breazeale, M. M. P., Instr. Math.

Eugene Betts, M. S., Instr. Elec. and Phys.

W. S. Myers, M. S., F. C. S., Instr. in Chem.

C. E. Adams, A. M., M. D., Instr. Phys. Culture; Dir. Gymnasium.

NEW MEXICO.

New Mexico College of Agriculture and Mechanic Arts, Mesilla Park.

COURSES OF STUDY.

The courses of study are four: A course in agriculture, a course in mechanical engineering, a course in civil engineering, and a scientific course.

BOARD OF INSTRUCTION.

S. P. McCrea, Pres.; Psych. and Logic.

J. P. Owen, V. Pres.; Hist, and Polit. Sci.

A. E. Blount, M. A., Agr. and Hort.

E. O. Wooton, B. S., Bot. and Geol.

C. T. Hagerty, B. S., Math. and Astron.

Arthur Goss, M. S., A. C., Chem.

A. E. Davisson, Prin. Prep. Dept.

Engin.

T. D. A. Cockerell, Physiol., Ent., and Zool.

Horace Ropes, B. S., Civil and Mech.

Ida M. Jones, Spanish; Asst. Prep. Dept. Lola Dorego, Music, Elocution, and Read-

F. E. Lester, Sten. and Typewriting; Clerk.

R. F. Hare, M. S., Asst. Chem.

O. L. Miller, Bookkeeping.

J. P. Stewart, Telegraphy.

Fabian Garcia, Asst. Agr. and Hort.

Charles Mills, Foreman Wood Shop.

NEW YORK.

Cornell University, Ithaca.

COURSES OF STUDY.

Among the numerous courses of study offered by the university is one which leads to the degree of bachelor of science in agriculture. This course requires four years for completion, and during the last two years the student selects most of his studies in those departments of the university in which he is interested. Post-graduate courses leading to the degrees of M. S. and D. Sc. are provided, and special courses in subjects relating to agriculture are also arranged.

BOARD OF INSTRUCTION.*

Jacob G. Schurman, D. Sc., LL. D., Pres. Geo. C. Caldwell, B. S., Ph. D., Chem. and Agr. Chem.

James Law, F. R. C. V. S., Vet. Medicine and Surgery.

Albert N. Prentiss, M. S., Bot., Hort., and Arbor.

Isaac P. Roberts, M. AGR., Agr.

John H. Comstock, B. S., Ent. and General Invertebrate Zool.

L. H. Bailey, M. S., General and Experimental Hort.

Geo. F. Atkinson, Ph. B., (Asst.) Cryptogamic Bot.

Henry H. Wing, M. S., (Asst.) Animal Industry and Dairy Husbandry.

Louis M. Dennis, Ph. B., B. S., (Asst.) Anal. Chem.

Joseph E. Trevor, Ph. D., (Asst.) Chem. and Agr. Chem.

Willard W. Rowlee, D. Sc., (Asst.) Bot.

E. G. Lodeman, B. S., Instr. Hort.

A. D. MacGillivray, Asst. in Ent.

G. C. Watson, M. S., Asst. in Agr.

Jared Van Wagenen, jr., B. S. A., Instr. Dairy Husbandry.

W. W. Hall, Instr. Dairy Husbandry.

Includes only instructors in subjects directly relating to agriculture. Many other members of the university faculty may give instruction to students pursuing the course leading to the degree of B. S. in agriculture.

NORTH CAROLINA.

The North Carolina College of Agriculture and Mechanic Arts, Raleigh.

COURSES OF STUDY.

The general courses of study are three, each requiring four years for completion: The agricultural course, leading to the degree of B. S. A., the mechanical course, leading to the degree of B. E., and the course in applied science, leading to the degree of B. S.

BOARD OF INSTRUCTION.

Alexander Q. Holladay, Pres.; Hist.

W. F. Massey, C. E., Hort., Arbor., and Bot.

W. A. Withers, M. A., Chem.; Sec.

D. H. Hill, M. A., English.

B. Irby, M. S., Agr.

Richard Henderson, Lient. U. S. N., Mil. Tactics and Phys.

W. C. Riddick, B. A., C. E., Mech. and Applied Math.

R. E. L. Yates, M. A., (Adjunct) Math.

F. E. Emery, B. S., (Asst.) Agr.

C. M. Pritchett, B. S., Instr. Mech.

C. B. Park, Supt. Shops.

B. S. Skinner, Asst. in Agr. and Hort. Practice.

L. T. Yarborough, B. E., Instr. Mech

Chas. Pearson, B. E., Instr. Mech.

S. E. Asbury, B. S., Instr. Chem.

B. F. Walton, B. S., Instr. Dairying.

F. P. Williamson, D. V. S., Lecturer on Vet. Sci.

C. D. Francks, B. E., Tutor Subfreshman Class.

Mrs. Sue C. Carroll, Matron.

J. B. Dunn, M. D., Physician

NORTH DAKOTA.

North Dakota Agricultural College, Fargo.

COURSES OF STUDY.

The course in agriculture requires four years for completion and leads to the degree of B. S. In addition to the regular course there is a short course in agriculture and domestic economy, which requires three months in each of two consecutive winters for completion.

BOARD OF INSTRUCTION.

J. B. Power, Pres.

E. F. Ladd, B. S., Chem.

T. D. Hinebauch, M. S., V. S., Vet. Sci.

C. B. Waldron, B. S., Hort. and For.

II. L. Bolley, M. S., Bot. and Zool.

E. S. Keene, B. S., Mech.

J. H. Shepperd, M. S. A., Agr.

L. S. Bottenfield, M. A., Modern Languages.

H. W. McArdle, B. S., Instr. Math.

W. H. Whalen, Ph. B., Instr. English. W. G. Hayden, Accountant and Bursar.

T. G. Hayten, Mcountine and Direct

E. E. Kaufman, B. S. A., Asst. in Agr.

Mrs. P. A. Evans, Lib.

W. G. Hiatt, Supt. Farm.

Miss M. B. Senn, M. S., Domestic Science.

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Ohio State University, Columbus.

COURSES OF STUDY,

The general courses of study are five, requiring four years each for completion, and leading respectively to the degrees of B. A., Ph. B., and B. S. There are now three courses leading to the degree of Ph. B.; in one the languages are Latin and French, in another German and French, while in the third English studies predominate. The following technical courses are provided: A course for the degree of B. S. in agri-

culture, requiring four years; a course for the degree of B. S. in horticulture and forestry, requiring four years; a course for the degree of D. V. M., requiring three years; a course preparatory to the study of medicine, requiring three years; a course for the degree of C. E., requiring four years; two courses for the degree of M. E., each requiring four years, one in mechanical engineering, and one in electrical engineering; a course for the degree of engineer of mines, requiring four years; a course for the degree of B. S. in industrial arts, requiring four years; a course for the degree of graduate in pharmacy, requiring three years; a short course in agriculture, requiring two years; a short course in mining, requiring two years; a course in ceramics or clay-making, requiring two years; and a course in dairying, requiring three months. Provision is also made for post-graduate study leading to degrees, and for one year of preparatory work.

BOARD OF INSTRUCTION.

- W. H. Scott, M. A., LL. D., Pres.; Philosophy.
- Edward Orton, Ph. D., LL. D., Geol.
- S. A. Norton, Ph. D., LL. D., Chem.
- N. S. Townshend, M. D. (Emeritus) Agr.
- S. W. Robinson, C. E., Mech. Engin.
- N. W. Lord, M. E., Min. and Metallurgy.
- S. C. Derby, M. A., Latin.
- W. R. Lazenby, M. AGR, Hort. and For.
- J. R. Smith, M. A., Greek.
- H. A. Weber, Ph. D., Agr. Chem.
- B. F. Thomas, Ph. D., Phys. and Elect. Engin.
- G. W. Knight, Ph. D., Hist. and Polit. Sci.
- H. J. Detmers, D. V. M., Vet. Surgery.
- R. D. Bohannan, B. S., C. E., M. E., Math. and Astron.
- D. S. Kellicott, Ph. D., Zool. and Ent.
- C. N. Brown, C. E., Civil Engin.
- E. A. Eggers, German.
- Albert M. Bleile, M. D., Anat. and Physiol.
- Engene T. Wilson, 2d Lieut. 1st Artillery, U. S. A., Mil. Sci. and Tactics.
- W. A. Kellerman, Ph. D., Bot.
- Thos. F. Hnnt, B. S., Agr.
- Rev. A. C. Barrows, M. A., D. D., English
- G. B. Kanffman, B. S., Pharmacy.
- B. L. Bowen, Ph. D., Romance Languages and Lit.
- J. V. Denny, B. A., Sec. Faculty; Rhet.
- J. N. Bradford, M. E., Drawing.
- A. L. Williston, B. S., Dir. Industrial Arts. Edward Orton, jr., M. E., Dir. Ceramies.
- O. B. Jones, Lib.
- R. I. Fulton, M. A., Elocution and Oratory.
- G. W. McCoard, M. A., (Asst.) Math.
- W. H. Siebert, M. A., (Asst.) Hist. and Polit. Sci.
- Wm. McPherson, jr., M. S., (Asst.) Chem. F. C. Caldwell, B. A., (Asst.) Elect. Engin.

- F. A. Ray, M. E., (Asst.) Mining Engin. Dewitt Goodrich, (Asst.) Dairying.
- B. B. Herrick, Lecturer on Cheese Making.W. K. Moorehead, Curator.
- C. W. Mesloh, B. A., Asst. in German.
- J. R. Taylor, B. A., Asst in Drawing and Rhet.
- C. L. Arnold, B. S., Asst. in Math.
- C. B. Morrey, B. A., Asst. in Physiol.
- C. A. Dye, Ph. G., Asst. in Pharmacy.
- L. M. Bloomfield, B. Agr., Asst. in Agr. Chem.
- F. J. Combs, Foreman Forge Room.
- E. A. Kemmler, C. E., Asst. in Civil Engin.
- H. C. Lord, B. S., Asst. in Math. and Astron.
- J. E. Boyd, B. S., Asst. in Phys.
- E. A. Hitchcock, M. E., Asst. in Mech. Engin.
- Florence Bascom, Ph. D., Asst. in Geol.
- J. H. McGregor, B. S., Asst. in Biol.
- N. H. Brown, Asst. in Phys.
- C. R. Watson, B. A., Asst. in Latin and French.
- Paul Fischer, D. V. M. Asst. in Vet. Medicine.
- D. S. White, D. V. M., Asst. in Vet. Medicine.
- C. W. Weick, Foreman Pattern Room.
- W. A. Knight, Foreman Machine Room.
- T. E. French, Asst. in Drawing.
- E. Bradford, Keeper Chem. Storeroom.
- K. D. Swartzel, Asst. in Math.
- Miss H. Townshend, Asst. in Lib.
- Miss N. Herrick, Asst. in Lib.
- J. A. Wilgns, Asst. in Hist.
- J. A. Ritchey, B. S., Asst. in Chem.
- C. A. Davis, Asst. in Mining Chem.
- E. F. M. Wilcox, Asst. in Bot.
- T. K. Lewis, B. S., Asst. in Drawing.
- O. J. Bailey, Asst. in Dairying.

OKLAHOMA.

Oklahoma Agricultural and Mechanical College, Stillwater.

COURSE OF STUDY.

The course of study requires four years for completion and leads to the degree of B. S.

BOARD OF INSTRUCTION.

E. D. Murdangh, M. A., Pres.

J. C. Neal, PH. C., M. D., Natural Sci.

A. C. Magruder, B. S., Agr.

E. F. Clark, Math.

G. L. Holter, B. S., Chem. and Phys.

F. A. Wangh, B. S., Hort.

F. E. Miller, M. A., English; Lib.

H. E. Thompson, B. S., Prin. Prep. Dept.

W. F. Little, Instr. Tactics.

Jessie Thatcher, Asst Lib.

OREGON.

Oregon State Agricultural College, Corrallis

COURSES OF STUDY.

The courses of study are three: A course in agriculture, requiring four years for completion and leading to the degree of B. S. A.; a course in mechanical engineering, requiring four years for completion and leading to the degree of B. M. E.; and a four-year course in household economy (for girls) leading to the degree of B. H. E.

BOARD OF INSTRUCTION.

J. M. Bloss, M. A., Pres.; Mental and Moral Sci.

J. D. Letcher, C. E., Math. and Engin.

F. Berchtold, M. A., Modern Languages, Hist., Drawing, and Music.

Margaret C. Snell, M. D., Honsehold Econ. and Hygiene.

G. A. Covell, M. E., Mech. and Mech. Engin.

F. L. Washburn, B. A., Zool. and Ent.

H. T. French, M. S., Agr.

M. Craig, M. S., Bot.

G. W. Shaw, M. A., Agr. Chem.

J. B. Horner, M. A., English.

George Coote, Instr. Hort.

W. W. Bristow, B. A., Prin. Prep. Dept.;
Bookkeeping.

J. F. Fulton, B. S., Asst. Chem.

C. D. Thompson, B. A., Foreman Agr. Dept. E. G. Emmett, B. M. E., Instr. Meeb. Draw-

ing and Blacksmithing.

D. W. Prichard, Instr. in Woodwork.

H. R. Clark, Instr. Printing.

Emile Pernot, Instr. Photography and Photogravure.

Mrs. Ida Callahan, B. S., Asst. in Prep. Dept.

C. E. Dentler, Lient. 11th Infantry, U. S. A., Mil. Sci.; Commandant.

PENNSYLVANIA.

Pennsylvania State College, State College.

COURSES OF STUDY.

The courses of study are as follows, each requiring four years for completion unless otherwise specified: General science course; Latin scientific course; course in agriculture; course in biology; course in chemistry; course in civil engineering; course in electrical engineering; course in mathematics; course in mechanical engineering; course in mining eugineering; course in physics; a special course in chemistry, and a special course in mining engineering, each requiring two years for completion, and short courses in dairying, agriculture, and mining, each lasting twelve weeks. The four years' courses lead to the degree of B. S., the diploma containing mention of line of work pursued. Provision is also made for post-graduate study, leading to advanced degrees, and for preparatory work.

Geo. W. Atherton, LL. D., Pres.; Polit. and Social Sci.

William A. Buekhout, M. S., Bot. and Hort.

I. Thornton Osmond, M. S., M. A., Phys. Harriet A. McElwain, M. A., Lady Prin.;

Louis E. Reber, B. S., M. A., Mech. and Mech. Engin.

William Frear, Ph. D., Sec. Faculty; Agr. Chem.

Geo. G. Pond, M. A., PH. D., Chem.

Henry P. Armsby, Pn. D., Lecturer on Animal Chem. and Cattle Feeding.

Edwin E. Sparks, M. A., Prin. Prep. Dept.

Henry J. Waters, B. A. S., Agr.

Henry T. Fernald, Ph. D., Zool.

Benjamin Gill, M. A., Latin.

William C. Thayer, M. A., Modern Languages.

E. W. McCaskey, 1st Lieut. 21st Infantry, U. S. A., Mil. Sci. and Tactics.

M. C. Ihlseng, M. E., C. E., Ph. D., Mining Engin. and Geol.

J. P. Jackson, B. S., M. E., Elect. Engin. T. W. Kinkaid, U. S. N., (Assoc.) Mech.

Engin.

Fred E. Foss, C. E., Civil Engin.

Joseph M. Willard, B. A., Math.

Albert S. Bolles, Econ. and Commercial Law.

Geo. C. Butz, M. S., Asst. Hort.

H. H. Stoek, B. S., M. E., (Asst.) Mining Engin. and Metallurgy.

M. M. Garver, B. S., (Asst.) Phys.

F. E. Tuttle, B. A., PH. D., (Asst.) Chem. and Min.

W. M. Towle, B. S., (Asst.) Practical Mech. E. W. Runkle, M. A., Ph. D., (Asst.) Psych. and Ethics.

F. L. Pattee, M.A., (Asst.) English and Rhet.

Jennie J. Willard, Instr. Music.

T. R. Beyer, B. S., C. E., Instr. Civil Engin. Anna E. Redifer, Instr. Industrial Art and Design.

M. J. Thompson, B. A., Instr. Math.

J. H. Tudor, C. E., M. S., Instr. Math.

Hervey E. Dunkle, B. S., Asst. in Mech. Drawing.

J. A. Hunter, jr., B. S., Instr. Mech. Engin. H. A. Lardner, B. S., Instr. Agr.

P. B. Breneman, B. S., Asst. in Civil Engin. W. H. Rebhun, B. S., Asst. in Chem. Lab.

L. W. Mattern, B. S., Asst. in English.

W. O. Farnsworth, M. A., Asst. in French and German.

G. T. Sellew, M. A., Instr. in Prep. Dept., English and Latin.

J. M. Wolfe, M. A., Instr. in Prep. Dept. Math.

G. W. Hoskins, Dir. Physical Training.

RHODE ISLAND.

Rhode Island College of Agriculture and Mechanic Arts, Kingston.

COURSES OF STUDY.

Extended courses are offered in mathematics, agriculture, practical and theoretical mechanics, engineering, horticulture, botany, chemistry—general, agricultural, pharmaceutical, and organic; art, history, English, French, German, Latin, biology, and political economy.

BOARD OF INSTRUCTION.

John H. Washburn, Pu. D., Pres.; Chem. Chas. O. Flagg, B. S., Agr.

L. F. Kinney, B. S., Hort.

Homer J. Wheeler, Рн. D., Geol.

A. L. Bosworth, B. S., Math.

E. J. Watson, M. A., Languages.

Wm. E. Drake, B. S., Mech. Engin.

O. C. Wiggin, M. D., Biol.

H. L. Merrow, M. A., Bot.

W. W. Wotherspoon, Capt. Twelfth Infantry, U. S. A., Mil. Sci. and Tactics.

J. D. Towar, B. S., (Assoc.) Agr.

Thos. C. Rodman, Instr. Woodwork.

F. A. Lane, Instr. Mech. Drawing and Surveying.

M. P. Helme, Instr. Drawing.

A. B. Peckham, B. A., Instr. English and Hist.

W. T. Lee, Instr. Chem. and Phys.

Samnel Cushman, Lecturer on Bee Keeping.

A. C. Scott, Asst. Instr. Chem.

W. B. Madison, B. S., Asst, Instr. Hort. Geo. C. Ammonds, B. S., Asst, Instr. Mech.

Geo. A. Rodman, B. S., Asst. Instr. Mech.

S. W. Sloeum, B. S., Asst. Instr. Mech.

John F. Knowles, B. S., Asst. Instr. Mech.

R. A. Wilber, B. S., Asst. Instr. Mech.

Nathaniel Helme, Met.

SOUTH CAROLINA.

Clemson Agricultural College, Clemson College.

COURSES OF STUDY.

There is one course of study offered in the freshman year and two in the sophomore, junior, and senior years; one in chemistry and agriculture and the other in mechanics and engineering.

BOARD OF INSTRUCTION.

E. B. Craighead, Pres. J. G. Clinkscales, (Assoc.) Math. T. P. Harrison. (Assoc.) English. H. A. Strode, Math. M. B. Hardin, Chem. R. N. Brackett, (Assoc.) Chem. W. L. McGee, M. S., Agr. J. W. Hart, (Adjunct) Agr. C. M. Furman, English. L. A. Clinton, (Asst.) Agr. Williams Welch, Instr. Drawing. C. W. Welch, Phys. J. F. C. Du Pre, Instr. Hort. W. S. Morrison, Hist. W. M. Yager, Instr. Drawing. T. Q. Donaldson, jr., Lieut. U. S. A., Mil. W. F. Moncreiff, Tutor English. E. M. Blythe, Tutor English. S. Tompkius, (Assoc.) Civil and Mech. A. Shanklin, Tutor Math.

College of Agriculture and Mechanics' Institute, of Claffin University, Orangeburg.

COURSES OF STUDY.

The regular courses of study are ten: The college classical course, requiring four years for completion, and leading to the degree of B. A.; the college scientific course, requiring four years, and leading to the degree of B. S.; the agricultural course, requiring four years, and leading to the degree of B.S.; the preparatory classical course, preparatory scientific, preparatory agricultural, and preparatory normal courses, requiring three years each, and leading to a certificate; the higher English course, requiring two years, and leading to a certificate; the common Euglish course, requiring six years, and leading to a certificate; instrumental music course, requiring four years, and leading to a certificate. Ten industrial courses are also provided, to be pursued in connection with the courses above.

BOARD OF INSTRUCTION.

L. M. Dunton, M. A., D. D., Pres.; Agr. Mrs. C. D. Mead, Lib. J. S. Heyward, M. A., Phys. Sci. W. R. A. Palmer, D. D., Greek and Lit. Mrs. L. M. Dunton, M. A., Preceptress; Chas. H. Sears, Pedagogies; Prin. English Rhet. and Lit. Schools. W. L. Bulkley, M. A., Latin, German, and Joseph C. Hartzell, jr., Biol. and Min. C. D. Mead, M. A., V. Pres. R. C. Bates, Drawing. Mortimer Glover, B. A., Hist, and Polit. Sci. P. F. Stevens, D. D., Math.; Instr. English M. Louise Linebarger, Music

SOUTH DAKOTA.

South Dakota Agricultural College, Brookings.

COURSES OF STUDY.

The full courses of study are four: A course in agriculture, a course in domestic economy, a course in mechanic arts, and a course in pharmacy. The first three require four years for completion and lead to the degree of B. S.; the last requires

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Engin.

Bible.

two years and leads to degree of Ph. G. Short two-year courses in agriculture and in mechanic arts are now offered and a one-year course in irrigation engineering. A special winter course of three months in dairying and veterinary medicine is also offered and a short course in steam engineering.

BOARD OF INSTRUCTION.

Lonis McLouth, M. A., PH. D., Pres.; Astron. and Phys.

Nellie E. Folsom, B. S., Preceptress; Instr. Languages.

J. H. Shepard, B. S., Chem.

W. H. H. Phillips, M. A., PH. D., Math. Lilla A. Harkins, B. S., Domestic Econ.

D. A. Cormack, D. V. S., Vet. Sci.

E. C. Chilcott, Agr.

John M. Parkinson, M. A., Ll. B., Hist. and Polit. Econ.

L. C. Corbett, B. S., Hort. and For.

A. S. Frost, 1st Lieut. 25th Infantry, U. S. A., Mil. Sci. and Tactics.

H. N. Ott, Ph. M., Zool. and Animal Pathology.

T. A. Williams, M. S., Bot. and Ent.

Alice E. Holt, B. L., English and Phys. Culture.

A. C. Solberg, B. S., Instr. Wood Shopwork and Mech. Drawing.

H. H. Wheaton, Dairy Sci.

Carrie M. Barton, Instr. Free-Hand Drawing and Wood Carving.

Loren E. Winslow, Instr. Sten. and Type-writing

C. G. Hopkins, M. S., Asst. in Chem.

Austin B. Crane, M. S., Asst. in Math.

Hnbert B. Bathews, B. S., Asst. in Phys. and Met.

Ed. F. Hewit, Sec. and Steward.

Daniel R. Willson, B. Mus., Instr. in Vocal and Inst. Music.

Gilbert A. Young, B. S., Instr. in Wood-work.

Marcus Johnson, Engin. and Steam Fitter.
A. W. Williams, Foreman Farm,

TENNESSEE.

State Agricultural and Mechanical College of the University of Tennessee, Knoxville.

COURSES OF STUDY.

The conrses of study are eight: Literary course, scientific course, course in agriculture, course in civil engineering, course in mechanical engineering, course in electrical engineering, course in mining engineering, and course in pedagogy. The degrees of B. A. and B. S. are conferred.

BOARD OF INSTRUCTION.

C. W. Dabney, jr., Ph. D., LL. D., Pres.*

W. W. Carson, C. E., Civil Engin.

T. W. Jordan, M. A., Latin.

C. E. Wait, C. E., M. E., Chem.

J. B. Henneman, M. A., Ph. D., English and German.

C. F. Vanderford, Agr. and Hort.

L. D. Tyson, 1st Lieut. 9th Infantry, U. S. A., Mil. Sci. and Tactics.

T. C. Karns, M. A., Hist., Philosophy, and Pedagogy.

C. D. Schmitt, M. A., Math.

G. F. Mellen, Ph. D., Greek and French.

Charles A. Perkins, Ph. D., Phys. and Elect. Engin.

Charles W. Turner, M. A., Lecturer on Hist.

J. R. McColl, B. S., Supt. Shops. R. L. Watts, B. A., Instr. Hort.

Charles Ferris, B. S., Instr. in Drawing.

S. M. Bain, B. S., Instr. Bot.

Claude Lowry, B. S., Instr. Math.

C. E. Chambliss, M. S., Instr. in Zool.

A. B. Wegener, Instr. Phys. Culture.

Edwin Wiley, B. S., Lib.

J. M. Black, B. A., Instr. English. H. T. Livingston, Instr. Latin and Greek.

TEXAS.

State Agricultural and Mechanical College of Texas, College Station.

COURSES OF STUDY.

The courses of study are two, each extending through four years: The agricultural course, leading by specialization of studies either to the degree of B. S. H. or to the degree of B. S. A., and the mechanical course, leading in a similar way to the degree of B. C. E. or to the degree of B. M. E. Post-graduate and special courses are also provided.

BOARD OF INSTRUCTION.

L. S. Ross, Pres.

R.	H.	Whitlock	. M. E.,	Mech.	Engin.

J. H. Connell, M. S., Agr.

H. H. Harrington, M. S., Chem. and Min.

C. Puryear, M. A., C. E., Math.

T. C. Bittle, M. A., PH. D., Languages.

G. T. Bartlett, 1st Lieut. 3d Artillery, U. S. A., Mil. Sci.; Commandant.

Mark Francis, D. V. M., Vet. Sci.

F. E. Giesecke, M. E., Drawing.

J. C. Nagle, M. A., M. C. E., Civil Engin. and Phys.

C. W. Hutson, English and Hist.

R. F. Smith, (Assoc.) Math.

D. Adriance, M. S., (Assoc.) Chem.

A. L. Banks, B. S., (Adjunct) Math.

W. B. Philpott, M. S., (Assoc.) English and
Hist.

W. A. Banks, (Asst.) English and Hist.

A. M. Soule, B. S. A., (Asst.) Agr.

P. S. Tilson, M. S., (Asst.) Chem.

R. H. Price, B. S., Hort. and Bot.

H. Ness, B. S., (Asst.) Hort. and Bot.

D. W. Spence, B. S., C. E., (1sst.) Civil Engin. and Phys.

Robert T. Bray, M. E., C. E., (Asst.) Mech. Engin.

J. Clayton, (Assoc.) Agr.

A. C. Gillespie, M. D., Surgeon.

J. H. Carter, Sec.

E. W. Hutchinson, B. C. E., Bookkeeper.

Bernard Sbisa, Steward.

C. A. Lewis, Foreman Carpenter Shop.

J. W. Carson, B. S., Foreman Farm.

Prairie View State Normal School, Prairie View.

COURSE OF STUDY.

The course in agriculture requires two years for completion.

BOARD OF INSTRUCTION.

S. C. Anderson, M. A., Prin.

Assistants.

C. W. Lieckie, B. A. M. H. Brogles.

m. II. Diogies.

J. D. Johns.

Leonora Arvy.

E. H. Holmes.

J. H. Reed, B. A.

Paul Bledsoe.

E. A. Daule. W. B. Woodruff, B. S.

W. D. Woodfull, D. S

Harriet F. Kimbro.

UTAII.

Agricultural College of Utah, Logan.

COURSES OF STUDY.

The college work includes five distinctive lines of instruction: Course in agriculture, course in domestic arts, course in mechanical engineering, course in civil engineering, commercial course. There are three special courses: A two years' course in agriculture, a two years' course in domestic arts, a course in irrigation engineering, and a preparatory department. In addition to these special courses there have been organized two courses of winter lectures covering ten weeks each: A course of agricultural lectures and a course of lectures for the domestic arts department.

Joshua H. Paul, Ph. B., Pres.: Mental, Moral, and Polit. Sci.

E. S. Richman, M. S. A., Hort, and Bot. Mrs. E. J. MacEwan, B. S., Instr. Sewing.

J. M. Sholl, B. M. E., Mech. Engin. Clare Kenyon, Elecution; Lib.

J. T. Caine, jr., Instr. Prep. Dept. F. W. Brewer, M. A., M. D., Biol.

A. A. Mills, B. S., Agr.

J. W. Mayo, Shopwork and Drawing.

S. S. Twombly, M. S., D. V. S., Chem. and H. D. Styer, 1st Lieut. 13th Infantry,

S. S. Twombly, M. S., D. V. S., Chem. and H. D. Styer, 1st Lieut. 13th Infantry, Vet. Sci.
U. S. A., Mil. Sci. and Math.
F. B. Linfield, B. S. A., Animal Husbandry S. Fortier, B. S. A., C. E., Civil and Husbandry

F. B. Linfield, B. S. A., Animal Husbandry S. Fortier, B. S. A., C. E., Civil and Hyand Dairying.

draulic Engin.

J. E. Shepard, Prin. Commercial Dept.
W. S. Langton, Instr. Prep. Dept.
Mrs. S. W. Eddy, Instr. Prep. Dept.
J. A. Widtsoe, B. S., Phys. and Min.

E. J. MacEwan, M. A., English and Modern Dalinda Cotey, M. S., Domestic Econ.

Languages. Karl Schaub, Free-Hand Drawing.

James Dryden, Instr. Commercial Dept. W. Fogelberg, Instrumental Music.

VERMONT.

University of Vermont and State Agricultural College, Burlington.

COURSES OF STUDY.

In the department of agriculture the courses of study are four; the agricultural course requiring four years and leading to a degree; the short course in agriculture requiring two years; the special course of one year, and the dairy-school course occupying four weeks.

BOARD OF INSTRUCTION.

M. H. Buckham, D. D., Pres.; Polit. and Social Philosophy.

V. G. Barbour, Ph. B., C. E., Civil Engin. A. A. Brigham, B. S., Agr.

G. H. Perkins, Ph. D., Natural Hist.

L. J. Huff, Modern Languages.

Fredk. Tupper, Ph. D. English Language

H.E. Tutherly, Capt. 1st Cavalry, U.S.A.,

and Lit. and Elocution.

H. E. Tutherly, Capt. 1st Cavalry, U.S. A.

Mil. Tactics.

N. F. Merrill, Ph. D., Chem. A. W. Slocum, Instr. Math. and Phys.

A. L. Daniels, D. S., Math. and Phys
J. W. Votey, C. E., Civil Engin.

L. R. Jones, Ph. B., Bot.
J. L. Hills, B. S., Agr. Chem.

Horatio Loomis, D. Sc., Min. A. W. Ayer, Mech. Engin.

H. B. Chittenden, M. A., Instr. English. F. A. Rich, Instr. Vet. Sci.

W. E. Simpson, Dairying.

VIRGINIA.

Virginia Agricultural and Mechanical College, Blacksburg.

COURSES OF STUDY.

The courses of study are seven, each requiring four years for completion and leading to the degree of B. S.: Agricultural course, horticultural course, applied chemistry course, general science course, civil engineering course, mechanical engineering course, and electrical engineering course. There are also two courses which require two years for completion and lead to a certificate of practical agriculture and practical mechanics.

J. M. McBryde, Ph. D., LL. D., Pres.; Agr. Chem.

W. B. Alwood, Hort., Ent., and Myc.

E. E. Sheib, PH. D., English, Hist., and Polit, Econ.

E. A. Smyth, jr., M. A., Biol.

T. P. Campbell, M. A., Modern Languages.

S. R. Pritchard, M. A., (Adjuvet) Phys. and Elect. Engin.

R. C. Price, Chem., Min., and Geol.

D. O. Nourse, B. S., Agr.

S. M. Barton, Ph. D., Math. and Civil Engin.

D. O. Shanks, 1st Lient. 18th Infantry, U. S. A., Mil. Sci. and Tactics: (Asst). Math. and Phys.

L S. Randolph, M. E., Mech. Engin.

R. J. Davidson, M. A., Anal. Chem. E. P. Niles, D. V. M., Vet. Sci.

W. W. Hurt, Sec.; Instr. Math. and Bookkeening.

C. G. Porcher, B. S., Instr. Forge Work.

J. R. Parrott, Instr. Woodwork.

T. L. Watson, Instr. Min. and Geol.

J. Gardner, Treas.

P. C. Hubard, Instr. Machine Work.

A. W. Drinkard, B. S., Asst. in English and Hist.

J. F. Strauss, B. S., Asst. in Hort.

J. W. Stull, B. S., Asst. in Math.

R. E. Wright, B. S., Asst. in Mech. Engin

F. D. Wilson, B. S., Asst. in Chem.

R. P. Whittle, B. S., Asst. in Elect. Engin.

Hampton Normal and Agricultural Institute, Hampton.

COURSE OF STUDY.

The course of study requires three years for completion and diploma is given on graduation.

BOARD OF INSTRUCTION.

H. B. Frissell, D. D., Prin.; Mental Philosophy.

H. B. Turner, Pastor; Bible Lessons. Geo. F. Peabody, Treas. (New York).

F. Chichester, Asst. Treas. (Hampton).

F. C. Briggs, Business Agent.

Albert Howe, Snpt. of Industries.

Martha M. Waldron, M. D., Resident Physician.

Leonora E. Herron, Lib.

Emily Herron, Asst. Lib.

Elizabeth Clark, Lady Prin.; Math.

Elizabeth Hyde, in Charge of Academic Dept.

Josephine E. Richards, in Charge of Indian Dept.

C. L. Goodrich, Agr.

C. C. Tucker, Manual Training.

Helen W. Ludlow, Rhet. and Composition.

Dora Freeman, Reading and Lit.

Myrtilla J. Sherman, Grammar and Composition.

Jane E. Davis, Science.

Jane S. Worcester, Hist. and Geography.

Alice M. Bacon, Civil Government and Polit. Econ.

Catherine Condell, Training.

Jessie F. Andrus, Grammar and Physiol.

Mary R. Hamlin, Geography.

Cora Moore, English.

Mary Gray Clark, English.

Emma Johnston, Arithmetic.

Mary W. Nettleton, Methods.

Mary Ellery, Drawing,

Annie Beecher Scoville, Bible and Hist.

Bernette Bachelder, Arithmetic.

Bessie Cleveland, Music.

Flora F. Lowe, Arithmetic and Grammar.

C. Gussie Adams, Reading, Language, and Arithmetie.

Alice I. Boardman, Reading and Arithmetic.

Fannie S. Hillard, Reading and Arithmetic. Marian Metcalf, Bible and Reading.

Grace Nettleton, Sci. and Language.

Grace E. Howes, Phys. Culture.

M. A. Price, Clara Snow, Louise Cleaveland, and Ora Brown, Indian teachers (distinctively).

WASHINGTON.

Washington Agricultural College and School of Science, Pullman.

COURSES OF STUDY.

Courses of study are offered in the following lines: Mathematics, civil engineering, mining engineering, chemistry, botany and zoology, agriculture, horticulture, English language and literature, economic science and history, electrical engineering, steam engineering, hydraulic engineering, mill engineering, military science and tactics; and supplemental courses in German, French, Latin, and physics.

BOARD OF INSTRUCTION.

E. A. Bryan, M. A., Pres.; Hist. and Polit. Sci.

Nancy L. Van Doren, Preceptress and Lib.; English Lit.

C. V. Piper, M. S., Bot. and Zool.

W. J. Spillman, M. S., Agr.

Geo. E. Stockle, 2d Lieut. 10th Cavalry, U. S. A., Mil. Sci. and Tactics.

John A. Balmer, Hort. and For.

A. R. Saunders, M. E., Mech. Engin. and Phys. O. L. Waller, Ph. M., Math. and Civil Engin.

Elton Fulmer, M. A., Chem.

F. T. Dow, B. M. E., Foreman Mech. Engin. Shops and Shop Practice.

G. H. Watt, B. S., Prin. Prep. Dept.

Annie Howard, (Asst.) English Language and Lit.

C. C. Fletcher, Asst. in Chem.

WEST VIRGINIA.

West Virginia University, Morgantown.

COURSES OF STUDY.

The courses of study are five, each requiring four years for completion: Classical course, leading to the degree of B. A.; scientific course, leading to the degree of B. S.; course in mechanical engineering, leading to the degree of B. S. M. E.; course in civil engineering, leading to the degree B. S. C. E.; and course in agriculture, leading to the degree of B. Agr. There is also a department of law, in which the degree of LL. B. is given. Post-graduate work and preparatory work are also provided.

BOARD OF INSTRUCTION.

P. B. Reynolds, D. D., Acting Pres.: Metaphysics and Polit. Sci.

B. C. Alderson, M. A., Ancient Languages and Lit.

J. I. Harvey, M. A., Ph. D., Modern Languages and Lit.

T. C. Miller, M. A., Prin. Prep. Dept.; Pedagogy.

St. G. T. Brooke, LL. D., Common and

Statute Law. W. P. Willey, M. A., Equity Jurisprudence.

A. R. Whitehill, Ph. D., Chem. and Phys.

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LIST OF STATION PUBLICATIONS RECEIVED AT THE OFFICE OF EXPERI-MENT STATIONS DURING 1894.*

ALABAMA COLLEGE STATION.

Date.	Publication.	Title.
1893. October 1894.	Bulletin 51 Annual Report	Vegetables. Sixth Annual Report, 1893.
January January Fehruary	Bulletin 53	Corn and Cotton. A New Milk or Water Sterilizer. Tobacco.
April May	Bulletin 55	A New Disease of Cotton—Cotton-Boll Rot. Experiments in Crossing for the Purpose of Improving the Cotton Fiher.
May	Bulletin 57	Fertilizers Required by Cotton as Determined by the Analysis of the Plant.
		ARIZONA STATION.
1893. November December	Bulletin 11 Annual Report.	Insects and Insecticides. Experimental Work at Willcox. Pumping Water for Irrigation. Financial Report, 1893.
1894. June 30	Series II. Bulletin 1	Preliminary Report of Ohservations on the "Crown-Knot."
		ARKANSAS STATION.
1893. December	Bulletin 25	Unsound Corn and Forage as a Cause of Disease in Live Stock. Colics in Horses and Mules. Some Further Experiments with Cattle. Texas Fever.
1894.	Annual Report .	Sixth Annual Report, 1893.
	Bulletin 27	Spraying Apple Trees. Spraying for Apple Scab. Spraying for Bitter Rot. Prevalence in the State of Apple Scah and Bitter Rot. Varieties of Apples in the State Reported as Surest Bearers. Some Apples Adapted to all Sections of the State. Arkansas Seedling Apples. Late Crops for Overflow Lands. Corn: Varieties for all Sections of the State. Corn Culture. Rotation of Crops. Cotton: Egyptian Varieties. Cotton Culture. Stack Frame for Curing and Storing Cowpea Hay. Cowpea Hay. Forage Plants. Oats for Hay. Rye for Green Winter Feeding. Fertilizer Experiments with Rye. Onions from Seed. Salsify, or Oyster Plant. Fall-Raised Irish Potatees. Preparation of Soil for Cotton. Bermuda Grass.
		Wheat Experiments on Sandy Loam Soil at Newport Substation.
September		Rations.
	Annual Report .	Seventh Annual Report, 1894.
		CALIFORNIA STATION.
1893. December 15. 1894.		Distribution of Seeds and Plants.
April Octoher	Bulletin 104 Bulletin 105	Investigations of California Olives and Olive Oils. The Canaigre, or Tanners' Dock. Australian Salt Bush for Alkali Soils.
December	Bulletin 106	

^{*} A list of publications issued by the stations prior to January 1, 1892, was published in the Experiment Station Record, Vol. III, p. 937, and a list of those issued during 1892 and 1893 in Bulletin 19 of the Office of Experiment Stations, p. 61.

COLORADO STATION.

Date.	Publication.	Title.
1892.	Amusal Passant	Eseth Annual Papart 1899
1893.	-	Fifth Annual Report, 1892.
1894.		Sixth Annual Report, 1893,
February	Bulletin 26	Farm Notes for 1893. Garden Notes for 1893. Seeding, Tillage, and Irrigation.
August September	Bulletin 27 Bulletin 28	The Measurement and Division of Water. The Russian Thistle.
	C	CONNECTICUT STATE STATION.
1893.	Annual Report .	Seventeenth Annual Report, 1893,
1894.		
January March	Bulletin 117 Bulletin 118	The Babcock Method of Determining Fat in Milk and Milk Products. A Provisional Bibliography of the More Important Works Published by the U. S. Department of Agriculture and the Agricultural Experiment Stations of the United States from 1886 to 1893 inclu- sive, on Fungus and Bacterial Diseases of Economic Plants.
Мау	Bulletiu 119	The Babcock Test as a Basis for Payment in Cream-gathering Creameries.
	C	ONNECTICUT STORRS STATION.
1833.	Annual Report	Sixth Annual Report, 1893.
1894. February	Bulletin 12	
October	Bulletin 13	Rations Fed to Milch Cows in Connecticut.
		DELAWARE STATION.
1892.	Annual Papart	Fifth Annual Report, 1892.
1893.	_	
December 1894,	Bulletin 22	The Preparation of Ammoniacal Solution of Copper Carbonate.
March July	Bulletin 23 Bulletin 24	Texas Fever. Strawberries: Test of Varieties.
		FLORIDA STATION.
1893.		
October November December	Bulletin 21 Bulletin 22 Bulletin 23	The Tomato and Some of Its Diseases. Fertilizers: How to Make and How to Use Them. Insecticides and Fungicides.
1894. January	Bulletin 24	Annual Report, 1893.
		GEORGIA STATION.
1893.		
October December	Bulletin 22 Bulletin 23	Manures and Fertilizers. Fertilizer, Culture, and Variety Experiments on Corn. Fertilizer and Variety Tests on Field Peas. Sixth Annual Report, 1893.
1894.	Annual Report . Bulletin 24	Sixth Annual Report, 1893. Variety, Fertilizer, and Culture Experiments on Cotton. Cotton
2 3 31 441 3 1	TOTAL DIA DI	Crosses and Hybrids.
		Crosses and Hybrids.

IDAHO STATION.

Date.	Publication.	Title.
1893. October 1894. January	Bulletin 5	The Relation of Meteorology to the Agricultural Interests of Idaho. First Aunual Report, 1893.
AprilJuly	Bulletin 7 Bulletin 8	Insecticides and Spraying. Water and Water Analyses.
		ILLINOIS STATION.
1893. December	Bulletin 28	Grapes: Test of Varieties. A Grape Disease. Grapes: Method of
December	Bulletin 29 Annual Report .	Training. Orange Rust in Raspberries and Blackberries. A New Factor in Scientific Agriculture. Sixth Aunual Report, 1893.
1894. March March April Juue 9	Bulletin 30 Bulletin 31 Bulletin 32	Blackberries and Raspberries: Variety Tests and Management. Corn and Oats Experiments, 1893. An Aeid Test of Cream. The Chinch Bug in Illinois, 1894. Alkalinc Tablets for Testing the
August August	Bulletin 34 Bulletin 35	Acidity of Cream. Certified Tests of Dairy Cows. Experiments with Wheat, 1893-'94. Experiments with Oats, 1894. The Russian Thistle in Illinois. Stock Feeding in Illinois. Index to Bulletins 17 to 36. Seventh Annual Report, 1894.
		INDIANA STATION.
1893.	Annual Report .	Sixth, Annual Report, 1893.
January March April August November		Experiments with Small Fruits. Sugar Beets. Field Experiments with Corn and Oats. Field Experiments with Wheat. Forms of Nitrogen for Wheat. Wild, or Prickly, Lettuce.
		IOWA STATION.
1893.	Bulletin 22	A Study in Churning. Composite Samples at the Creamery: Chromate Preservatives. Rennet Extracts of Commerce. The
1004	Bulletin 23	Use of Sand Cherries for Stocks. Rose Hybrids. Soiling. A Study of Ripening Corn. Notes on Injurious Insects. Results of Crossing Cucurbits. Notes on a few Common Fuugus Diseases. Sugar Beets in Iowa. Raiufall Record.
1894.	Bulletin 24	ments with Fungicides. Corn Insects: Their Iujuries and How to Treat Them. Index to Volume II. Bulletins 13 to 24, inclusive.
		Feeding Winter Dairy Cows. Calf Feeding. Specific Gravity and Weight of Wheat Seed. Report on Separators. Creaming by Gravity. Corn Meal vs. Grass with Stock Steers. Actinomycosis and the Iodid Treatment. Rainfall Record. The Russiau Thistle.
		KANSAS STATION.
1893. December December December December		The Effect of Fungicides upon the Germination of Corn. Experiments with Oats. Experiments with Sorghum and Sugar Beets. Further Study of Native Grapes. Experiments with Corn.
1894. May August	Annual Report. Bulletin 46 Bulletin 47	Sixth Annual Report, 1893. Rusts of Grain, II. Experiments with Wheat. Experiments in Feeding Steers, III.

KENTUCKY STATION.

Date.	Publication,	Title.
1890. 1891. 1892. 1893. December	Annual Report . Annual Report . Annual Report . Bulletin 47 Annual Report .	Third Annual Report, 1890. Fourth Annual Report, 1891. Fifth Annual Report, 1892. The Pests of Shade and Ornamental Trees. An Experiment on Plum Rot. Sixth Annual Report, 1893.
189 January Mareh April August	Bulletin 48 Bulletin 49 Bulletin 50 Bulletin 51	Commercial Fertilizers. Destructive Locusts in Kentucky. The Bud Worm of Tobacco, Fruit Growing in Kentucky. Notes upon Vegetables. Commercial Fertilizers.
		LOUISIANA STATIONS.
1893.	Second Series. Bulletin 23	Analyses of Commercial Fertilizers and Other Substances Useful to Agriculture. Sixth Annual Report, 1893.
1894.	Bulletiu 24. Bulletiu 25. Bulletiu 26. Bulletiu 27. Bulletin 28. Bulletin 29. Bulletin 30. Bulletin 31.	Sugar Cane: Field Experiments—Physical and Physiological. Tobacco. Sugar Cane: Field Experiments—Varieties of Cane, and Striped vs. Purple. Horticulture: Results of the Year 1893. Report of the Farm, 1893. Report of the Veterivarian. Report of the Entomologist. Report of Results for 1893 at Calhoun, Lonisiana. Sweet Potatoes. Domestic and Commercial Fertilizers: Results of Five Years with Our Staple Crops.

MAINE STATION.

1893.		
	Annual Report .	Annual Report, 1893.
1894.	Second Series.	
		Waste of Fat in Skimmed Milk by the Deep-Setting Process.
January 8	Bulletin 6	Fruit Culture: Varieties.
February 15.	Bulletin 7	Inspection of Fertilizers.
March 1	Bulletin 8	Spraying Experiments.
	Bulletin 9	
April 1	Bulletin 10	Cauliflowers,
April 2	Bulletin 11	Corn as a Silage Crop.
May 1	Bulletin 12	Potatoes: A Comparison of the Trench System with Ordinary Culture.
		The Suppression of Bovine Tuberculosis and Glanders.
September 15.	Bulletin 14	Inspection of Fertilizers.

MARYLAND STATION.

1893, December		Injurious Iusects of Maryland. Sixth Annual Report, 1893.
February March June August	Bulletin 25 Bulletin 26 Bulletin 27	Composition of Commercial Fertilizers sold in this State. Corn, Potatoes, Tomatoes, Strawberries, Grapes, etc. Tobacco. Composition of Commercial Fertilizers Sold in this State. Experiments with Wheat and Barley.

MASSACHUSETTS STATE STATION.

Date.	Publication.	Title.
1893.	Annual Days	Florenth Annual Perset 1999
1894.	Annual Report .	
March	Bulletin 51	General Discussion on Commercial Fertilizers. Analysis of Fodder Articles.
June	Bulletin 52	Meteorological Summary for Five Months Ending May 31, 1894.
July	Bulletiu 53	Analyses of Commercial Fertilizers Collected During 1894. Meteorological Summary for June, 1894. Analyses of Commercial
August	Bulletin 54	Fertilizers Collected During 1894. Meteorological Summary for July, 1894. Analyses of Commercial
-		Fertilizers Collected During 1894.
October	Bulletin 55	Meteorological Summary for August and September, 1894. Analyses of Commercial Fertilizers Collected During 1894.
November	Bulletin 56	Meteorological Summary for October, 1894. Aualyses of Commercial Fertilizers Collected During 1894.
	M	ASSACHUSETTS HATCH STATION.
1893.		
October	Bulletin 22	Report on Fruits.
December	Bulletin 23 Meteorological	Electro-Culture. Meteorological Bulletin 60.
1894.	Bulletin.	
January	Special Bulletin.	Green Manuring.
April	Bulletin 24 Bulletin 25	Insecticides. The Horn Fly. Fungicides and Insecticides. Tests of Grapes.
OctoberJanuary-No-	Bulletine26 Meteorological	Strawberries. Blackberries. Raspberries. Meteorological Bulletins 61 to 71.
vember.	Bulletins.	
		MICHIGAN STATION.
1893,		
August December 1	Bulletin 101	Fighty New Strawberries. Composition of Wheat and Straw. Composition of Certain Forage Plants. Adulteration of Ground Feed. Mineral Residues in
December 1	Bulletin 102	Sprayed Fruits. Insects Injurious to Celery.
1894. February	Bulletiu 103	Peach and Plum Culture in Michigan.
February	Bulletin 104	A Year Among Fruits.
February	Bulletiu 106	Michigau Fruit List. Strawberries and Raspberries.
February	Bulletin 107 Bulletin 108	Fattening Lambs. Potatoes and Potato Scab.
February	Bulletin 109	Variety Tests of Vegetables. The External Conformation of the Horse.
July	Bulletiu 110 Bulletin 111	The Cultivated Raspberries of the United States.
October	Bulletin 112 Bulletin 113	Fertilizer Analyses. Fattening Lambs.
October	Bulletin 114 Bulletin 115	Rape as a Forage Plant. Management of Swamp Lands.
October	Bulletin 116	Insects of the Clover Field.
December	Bulletin 117	Millet.
		MINNESOTA STATION.
1893.		
December	Bulletin 29	Wheat: Heavy and Light Weight Seed Wheat; the Vigor of Growth of the Wheat Plant; the Draft of the Wheat Plant upon the Soil
December	Bulletin 30	in Different Stages of its Growth. Soils: The Composition of Native and Cultivated Soils, and the
		Effects of Continuous Cultivation upon their Fertility.
December	Duneum or	Practical Rations for Lambs. Lambs vs. Wethers for Fattening. Valuation of Wheat Screenings. Field Experiments. Varieties of Wheat, Oats, and Corn. Methods of Plantung Oats, Wheat, and Potatoes. Depth to Sow Oats and Wheat, and Time to Sow. Heavy vs. Light Oats for Seed. Methods of Preparing Land for Oats.
December	Bulletin 32	Late Blight and Rot of the Potato. Potato Scab. Cross Fertiliza- tion of Grapes. Conservation of Moisture in Soil. Fruits: Notes on Varieties.
1894.	Annual Report	
July September	Bulletin 33 Bulletin 34	The Russian Thistle or Russian Tumble Weed. The Chemical Development and Value of Red Clover. The Russian
		Thistle: Its Food Value and Draft upon the Soil.

MISSISSIPPI STATION.

MISSISSIPPI STATION.			
Date.	Publication.	Title.	
1893. November 1894.	Bulletin 27 Annual Report .	Iusecticides and their Applicatiou. Sixth Aunnal Report, 1893.	
January May	Bulletin 28 Bulletin 29	The Horn Fly. Exhaustion and Restoration of Soil Fertility. Fertilizers and their Use.	
May	Bulletin 30	A Kerosene Attachment for Knapsack Pumps.	
	MISSOURI STATION.		
1892. October 1893.	Bulletin 19	Soils and Fertilizers, Part I.	
January July October	Bulletin 20 Bulletin 22 Bulletin 23	Soils and Fertilizers, Part II. Seedling Strawberries. Grape Culture.	
MONTANA STATION.			
1894. March May June	Bulletin 1 Bulletin 2 Bulletin 3	Organization: Announcements. Sunts of Wheat, Oats, and Barley. Pig Feeding.	
		NEBRASKA STATION.	
1893. December 20. 1894.	Bulletin 31 Annual Report .	The Russian Thistle in Nebraska. Seventh Annual Report, 1893.	
February 7 April 16 May 1 May 1	Bulletin 33 Bulletiu 34	Wheat and Some of its Products. Meteorological Observations for 1893. Chinch Bugs. Alfalfa. Farm Notes. Experiments in the Culture of the Sugar Beet in Nebraska.	
		NEVADA STATION.	
1893. December December	Bulletin 22 Bulletin 23 Annual Report	Nevada Weeds, H. Sugar Beets. Sixth Annual Report, 1893.	
		NEW HAMPSHIRE STATION.	
1892. November 1894.	Bulletin 18	Effect of Food on Milk.	
February March	Bulletiu 20	Spraying Apples and Pears against Fungi. Effect of Food on Milk: Feeding with Fats. Farmyard Manures and Artificial Fertilizers.	
NEW JERSEY STATIONS.			
1893. December 9 1894. April 4 June 11	Annual Reports. Bulletin 99 Bulletin 100	College Station, 1893. The Pear Midge. Crimson, or Scarlet, Clover: Its Growth, Composition, and Usefulness.	
July 2 July 30 October 8	Bulletin 102	Analyses of Fertilizing Materials and Home Mixtures. The Experieuce of Farmers with Home Mixtures.	

NEW MEXICO STATION.

Title.

Publication.

Date.

Date.	I doncation.	1100,
1893. September October November	Bulletin 10	The Value of Rio Grande Water for the Purpose of Irrigation.
NEW YORK STATE STATION.		
September October November December 1894. January January January February Mareh	Bulletin 56 Bulletin 57 Bulletin 58 Bulletin 59 Bulletin 60 Bulletin 61 Bulletin 62 Annual Report. Bulletin 64 Bulletin 65 Bulletin 66 Bulletin 67 Bulletin 67 Bulletin 68	Experiments in the Manufacture of Cheese: Manufacture of Cheese from Normal Milk Rich in Fat; Study of Cheese-Ripening Process. General Principles Relating to the Composition and Use of Fertilizers. Experiments in the Manufacture of Cheese: The Manufacture of Edam Cheese; The Manufacture of Gouda Cheese. Feeding Experiments with Laying Hens. Keeping Males with the Laying Stock. Observations on Feather Eating. General Observations. Analyses of Commercial Fertilizers Collected in Long Island in the Spring of 1893. Analyses of Commercial Fertilizers Collected in the Spring of 1893. Investigations Relating to the Manufacture of Cheese, Part II. Investigations Relating to the Manufacture of Cheese, Part III. Some Experiences with Blackberries, Dewberries, and Raspberries. Twelfth Annual Roport, 1893. Some Experiences with Strawberries. Strawberry Crosses. Investigations Relating to the Manufacture of Cheese, Part IV. Analyses of Commercial Fertilizers Collected in the Fall of 1893. Experiments in Preventing Pear Seab in 1893. Investigations Relating to the Manufacture of Cheese, Part IV. Analyses of Commercial Fertilizers Collected in the Fall of 1893. Experiments in Preventing Pear Seab in 1893. Investigations Relating to the Manufacture of Cheese, Part IV. Analyses of Commercial Fertilizers Collected in the Fall of 1893. Experiments in Preventing Pear Seab in 1893. Investigations Relating to the Manufacture of Cheese, Part IV.
Mareh April May June July May	Bulletin 71 Bulletin 72	New York State.

NEW YORK CORNELL STATION.

1892.		
	Annual Report .	Fifth Annual Report, 1892.
1893.		
November	Bulletiu 59	Does Mulching Retard the Maturity of Fruits!
December	Bulletin 60	The Spraying of Orehards.
December	Bulletin 61	Sundry Investigations of the Year.
	Annual Report .	Sixth Annual Report, 1893.
1894.	•	
January	Bulletin 62	The Japanese Plums in North America.
March		Cooperative Test of Sugar Beets.
March		On Certain Grass-Eating Insects.
April		Tuberculosis in Relatiou to Animal Industry and Public Health.
May		Test of Cream Separators.
June		Some Recent Chinese Vegetables.
August		The Cultivated Poplars; with Remarks upon the Planting of Grounds.
August		Hints on the Planting of Orchards.
August		The Native Dwarf Cherrics.
August		Apricot Growing in Western New York.
September		The Cultivation of Orehards.
September		Leaf Curl and Plum Poekets.
October		Impressions of the Peach Industry in Western New York.
October	Bulletin 75	Peach Yellows.
November		Some Grape Troubles of Western New York.
November		The Grafting of Grapes.
		The state of the s

NORTH CAROLINA STATION.

Date.	Publication.	₹ Title.
1893. October 7	Bulletin 93	Feeding Experiments: Experiments in Fattening Stock for Beef with Cotton-Seed Hulls and Meal; Corn Silage and Soja-Bean Silage with Cotton-Seed Meal for Beef; Exclusive Silage Feeding,
November 15. December 15.	Bulletin 93b Bulletin 93c	and What is a Maintenance Ration? Meteorological Summary for October. Meteorological Summary for November. Circular Inviting Attention to the Work of the State Weather Service.
December 30.	Bulletin 93d Annual Report . Annual Report .	Meteorological Summary for December. Sixteenth Annual Report, 1893. Seventh Annual Report of the Meteorological Division, 1893.
1894. January 1	Bulletin 94	Horticultural Tests and Rosults with Garden Vegetables, Fruits, and Bulb Culture.
January 12 January 20		The Fertilizer Control during 1893. Miscellaneous Agricultural Topics Contained in the Press Service Bulletins.
January 30 March 1 April 15	Bulletin 97 Bulletin 98 Bulletin 99	Digestion Experiments, Some Leguminous Crops and their Economic Value. Thread Worm of Pork (Trickina spiralis).
March 26 August 2 August 3	Bulletin 100 Bulletin 101 Bulletin 102	Our Common Insects. The Progress of the Dairy Industry in North Carolina. Encouragement to the Dairy Interests of North Carolina through
August 17	Bulletin 103	the Medinm of the State Fairs. Miscellaneous Agricultural Topics Contained in the Press Service Bulletins of January to June, 1894, Why Pull Your Corn Fodder?
August 18 September 4. September 6. September 6.	Bulletin 105 Bulletin 106 Bulletin 107	The Chestrint and its Weevil. Nut Culture for North Carolina.
September 22		ists' Use.
February 24 March 10 March 24	Bulletin 16 Bulletin 17	Fertilizer Analyses and the Fertilizer Control. Fertilizer Analyses and the Fertilizer Control. Fertilizer Analyses and the Fertilizer Control.
April 7 April 21 May 22	Bulletin 20	Fertilizer Analyses and the Fertilizer Control. Fertilizer Analyses and the Fertilizer Control. Fertilizer Analyses and the Fertilizer Control.
January 31 February 28 March 31	Bulletin 52 Bulletin 53 Bulletin 54	Meteorological Summary for January. Meteorological Summary for February. Meteorological Summary for March. Meteorological Summary for April.
April 30 May 31 June 30	Bulletin 56 Bullotin 57	Meteorological Summary for May, Meteorological Summary for June.
July 31 August 31 September 30 October 31	Bulletin 59 Bulletin 60	Meteorological Summary for July. Meteorological Summary for Angust. Meteorological Summary for September. Meteorological Summary for October.
	i	NORTH DAKOTA STATION,
1893. November 1894.	Bulletin 11 Annual Report .	Grain and Forage Crops. Fourth Annual Report, 1893.
January April June	Bulletin 13	Tuberculosis.
OHIO STATION.		
1893. November December	Bulletin 50 Bulletin 51 Bulletin 52. Annual Report.	Experiments in Feeding for Milk. Miscellaneous Entomological Papers. Meteorological Summary for 1893. Twelfth Annual Report, 1893.
1894. March October	Bulletin 53 Bulletin 54	Field Experiments with Commercial Fertilizers. Strawberries: Cultural Notes, Comparison of Varieties.

OKLAHOMA STATION.

		OKLAHOMA STATION.
Date.	Publication.	Title.
July October	Bulletin 7 Bulletin 8	Water Analyses. Tests of Varieties of Wheat.
January April	Bulletiu 9 Bulletin 10	Test of Varieties of Vegetables in 1893. Coru.
		OREGON STATION.
1891.	Annual Report .	Third Annual Report, 1891.
1892.	Annual Report .	
1893. December	Bulletin 27	Plant Diseases: Their Cause and Prevention.
January February	Bulletin 29	Continuation of Experiments in Pig Feeding. Notes on Vegetables, Fruits. Pruning, etc.
April	Bulletin 30 Bulletin 31	Notes on Vegetables, Fruits, Pruning, etc. Potatoes. Roots. Progress of Work: Coddling Moth, Hop Louse, Flea Beetles, Radish Flies, Cutworms and Wireworms, Tent Caterpillars Illustrations of Oregou Insects and Insect Work, Gophers and Moles, Capons and Caponizing.
		PENNSYLVANIA STATION.
1892.	Annual Report	Annual Report, 1892.
1893. October	Bulletin 25 Annual Report	Small Fruits in 1893.
1894. January April	Bulletin 26 Bulletin 27	Maugels and Sugar Beets vs. Silage—Yield, Cost, and Feeding Value Tests of Cream Separators.
	I	RHODE ISLAND STATION.
1893. September	Bulletin 25	Turkeys: Experiments with; Management of by Successful Producers; Wild Turkey Crosses, their Desirability, and Where They may be Obtained. Fertilizers. Oats. Potato Scab.
March July October	Bulletin 27 Bulletin 28 Bulletin 29	Fertilizers. Oats. Potato Scab. Leaf Blight of the Pear. Raspberries. Distribution of Plants. Rhode Island Soils. Fertilizers. Fertilizers: Commercial and Special Formula.
		SOUTH CAROLINA STATION.
1893. March	Bulletin 9	Experiments with Irish Potatoes.
April	Bulletin 10	Notes on Varieties of Beans. Analyses of Commercial Fertilizers, Part 1.
May	Bulletin 12	Cooperative Soil Tests of Fertilizers.
JulyAugust	Bulletin 13 Bulletin 14 Annual Report .	Analyses of Commercial Fertilizers, Part 2. Experiments with Corn. Sixth Annual Financial Report, 1893.
1894. March	Bulletin 15	Fertilizer Experiments with Corn.
April July August	Bulletin 16 Bulletin 17 Bulletin 18 Annual Report.	Experiments with Tomatoes. Analyses of Commercial Fertilizers. Fertilizer Experiments with Cotton. Seventh Anuual Report, 1894.
		SOUTH DAKOTA STATION.
1892.	Annual Report .	Fifth Annual Report, 1892.
1893. December	Bulletin 37	Horticulture and Forestry.
January February May	Bulletin 38 Bulletin 39 Bulletiu 40	Feeding Wheat to Hogs. Milk Tests and Comparison Tables. Native and Introduced Forage Plants.

TENNESSEE STATION.

TENNESSEE STATION.		
Date.	Publication.	Title.
1893.	Annual Report .	Sixth Annual Report, 1893:
1894. January	Bulletin, Vol.	Grasses of Tennessee, Part 2.
October	VII. No. 1. Bulletin, Vol. VII, No. 2.	Fruits: Grapes, Strawberries, Raspberries, Blackberries, Pears, Apples, and Peaches.
	I	TEXAS STATION.
1902		
1893. December December	Bulletin 28 Bulletin 29 Annual Report .	Effects of Cotton Seed and Cotton-Seed Meal on Butter, Beef Tallow, Lard, and Sheep Suet.
1894. March		Veterinary Science: Glanders Experiments; Tuberculin Experi-
June		ments; Lump Jaw of Cattle; Notes on Parasites; Texas Fever Experiments; Device for Destroying Ticks. Insects Injurious to Stored Grain.
		UTAH STATION.
1893.		
October December	Bulletin 25 Bulletin 26 Annual Report .	Fruits; and Forest, Shade and Ornamental Trees. Subirrigation vs. Surface Irrigation. Fourth Annual Report, 1893.
March April		Early, Late, and Usual Irrigation. The Value of Grass in the Production of Pork. Exercise vs. Nonexercise for Pigs.
Мау	Bulletin 29	Irrigation: Amount of Water to Use. Relative Feeding Values of
June June		
June	Bulletin 32 Bulletin 33	Reots and Plants of Farm Crops.
July	Bulletin 34	Relative Value of Wheat, Peas, Corn, and Barley in the Production
August	Bulletin 35	of Pork. The Value of Straw and Grain as a Substitute for Hay. Short Spring Periods of Grain Feeding. Relative Value of Ensilage.
September	Bulletin 36	Spring Periods of Grain Feeding. Relative Value of Ensilage, Roots, and Strawas Condiments. Value of Different Grain Rations. Relative Value of Corn and Oats for Horses.
		VERMONT STATION.
1893.		
	Bulletin 36 Bulletin 37	Annual Report of the Director, Part I.
	Bulletin 38 Bulletin 39	Annual Report of the Director, Part II.
December		Spraying Potatoes.
1894. April July	Bulletin 41	Analyses of Commercial Fertilizers.
VIRGINIA STATION.		
1893.	1	
July	Bulletin 30	Grape Culture.
Angust September	Bulletin 32	The Cow in Relation to Public Health.
October November	Bulletin 34	Roads and Road Making.
December	Bulletin 35 Annual Report .	Fertilizer Tests on Grapes.
January February	Bulletin 36	The Horse's Teeth, Strawberry Culture.
March	Bulletin 38	Are All Birds of Prey Injurious to the Farmer?

WASHINGTON STATION.

Date.	Publication.	Title.	
1893. January June December 1894. February	Bulletin 7	Two Injurious Insects. Common Fungus Diseases and Methods of Prevention. Dodder. Sugar Beets. Wheats, Barleys, Oats, Peas, and Forage Crops. Review of Weather and Crops in Washington for 1893. Third Annual Report, 1893. Preliminary Report of a Feeding Test with Swine. Washington Soils.	
	WEST VIRGINIA STATION.		
1893. May September December 1894. January February Angust 1		West Virginia Forest and Shade Tree Insects. Subirrigation in the Greenhouse. Fertilizer Analyses for the Year Ending December 31, 1893. Defects in Wood Cansed by Insects. Black Holes in Wood. Fertilizer Analyses.	
	WISCONSIN STATION.		
January April July Angust October	Bulletin 38 Bulletin 39 Bulletin 40 Bulletin 41 Bulletin 42	One Hundred American Rations for Dairy Cows. Noxions Weeds. Tuherculosis and the Tuberculin Test. Grain Feeding Lambs for Market. Destructive Effects of Winds on Sandy Soils and Light Sandy Loams, with Methods of Protection.	
WYOMING STATION.			
1893. December December 1894. March June September October	Bulletin 15 Bulletin 16 Annual Report Bulletin 17 Bulletin 18 Bulletin 19 Bulletin 20	The Winter Killing of Trees and Shruhs. Grasses and Forage Plants. Third Annual Report, 1893. Crop Report for 1893. Cost and Profit of Growing Wheat. Sugar Beets. Garden Vegetables and Tobacco. Progress Report on Fruits and Trees. Meteorology for 1893. The Reclamation of Arid Lands The Harvey Water Motor. Squirrel-Tail Grass. The Artesian Wells of Southern Wyoming: Their History and Relation to Irrigation.	

FEDERAL LEGISLATION AFFECTING AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

ACT OF 1862 DONATING LANDS FOR AGRICULTURAL COLLEGES.

AN ACT donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts.

Be it enacted by the Scnate and House of Representatives of the United States of America in Congress assembled. That there be granted to the several States, for the purposes hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Scnator and Representative in Congress to which the States are respectively cutilled by the apportionment under the census of eighteen hundred and sixty: Provided, That no mineral lands shall be selected or purchased under the provisions of this act.

SEC. 2. That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections, not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five eents per acre, the quantity to which said State shall be entitled shall be selected from such lauds within the limits of such State, and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public lands subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be cutitled under the provisions of this act, land serip to the amount in acres for the deficiency of its distributive share; said scrip to be sold by said States and the proceeds thereof applied to the uses and purposes prescribed in this act, and for no other use or purpose whatsoever: Provided, That in no ease shall any State to which land serip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said land serip upon any of the unappropriated lands of the United States subject to sale at private entry at one dollar and twenty-five cents, or less, per acre: And provided further, That not more than one million acres shall be located by such assignees in any one of the States: And provided further, That no such location shall be made before one year from the passage of this act.

Sec. 3. That all the expenses of management, superintendence, and taxes from date of selection of said lands, previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sales of land script hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or some other safe stocks, yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in section fifth of this act), and the interest of which shall be inviolably

appropriated, by each State which may take and claim the benefit of this act, to the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which, as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

First. If any portion of the fund invested, as provided by the foregoing section, or any portion of the interest thereon, shall, by any action or contingency, be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this act, except that a sum, not exceeding ten per centum upon the amount received by any State under the provisions of this act, may be expended for the purchase of lands for sites or experimental farms, whenever authorized by the respective legislatures of said States.

Second. No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings.

Third. Any State which may take and claim the benefit of the provisions of this act shall provide, within five years, at least not less than one college, as described in the fourth section of this act, or the grant to such State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and that the title to purchasers under the State shall be valid.

Fourth. An annual report shall be made regarding the progress of each college, recording any improvements and experiments made, with their costs and results, and such other matters, including State industrial and economical statisties, as may be supposed useful; one copy of which shall be transmitted by mail free, by each, to all the other colleges which may be endowed under the provisions of this act, and also one copy to the Secretary of the Interior.

Fifth. When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionally diminished.

Sixth. No State while in a condition of rebellion or insurrection against the Government of the United States shall be entitled to the benefit of this act.

Seventh. No State shall be entitled to the benefits of this act unless it shall express its acceptance thereof by its legislature within two years from the date of its approval by the President.

SEC. 6. That land scrip issued under the provisions of this act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

SEC. 7. That the land officers shall receive the same fees for locating land scrip issued under the provisions of this act as is now allowed for the location of military bounty land warrants under existing laws: *Provided*, Their maximum compensation shall not be thereby increased.

SEC. 8. That the governors of the several States to which serip shall be issued under this act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved, July 2, 1862.

ACT OF 1887 ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

AN ACT to establish agricultural experiment stations in connection with the colleges established in the several States under the provisions of an act approved July second, eighteen hundred and sixtytwo, and of the acts supplementary thereto.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July second, eighteen hundred and sixty-two, entitled "An act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts," or any of the supplements to said act, a department to be known and designated as an "agricultural experiment station:" Provided, That in any State or Territory in which two such colleges have been or may be so established the appropriation hereinafter made to such State or Territory shall be equally divided between such colleges, unless the legislature of such State or Territory shall otherwise direct.

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissionei of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate from time to time, such lines of inquiry as to him shall seem most important; and, in general, to furnish such advice and assistance as will best promote the purpose of this act. It shall be the duty of each of said stations annually, on or before the first day of February, to make to the governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said Commissioner of Agriculture, and to the Secretary of the Treasury of the United States.

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster-General may from time to time prescribe.

Sec. 5 That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore

prescribed, the sum of fifteen thousand dollars per annum is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this act, out of any money in the Treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of Jannary, April, July, and October in each year, to the treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, eighteen hundred and eighty-seven: Provided, however, That out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a bnilding or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

Sec. 6 That whenever it shall appear to the Secretary of the Treasury from the annual statement of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remain unexpended, such amount shall be deducted from the next succeeding annual appropriation to such station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

Sec. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of the said colleges and the government of the States or Territories in which they are respectively located.

SEC. 8. That in States having colleges entitled under this section to the benefits of this aet and having also agricultural experiment stations established by law separate from said colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established under the provisions of said act of July second, aforesaid, an agricultural department or experimental station, in connection with any university, college, or institution not distinctively an agricultural college or school, and such State shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the legislature of such State may apply in whole or in part the appropriation by this act made to such separate agricultural college or school, and no legislature shall by contract express or implied disable itself from so doing.

SEC. 9. That the grants of moneys anthorized by this act are made subject to the legislative assent of the several States and Territories to the purposes of said grants: *Provided*, That payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasnry.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the Treasury to any or all the States or institutions mentioned in this act, but Congress may at any time amend, suspend, or repeal any or all the provisions of this act.

Approved, March 2, 1887.

ACT OF 1890 FOR THE FURTHER ENDOWMENT OF AGRICULTURAL COLLEGES.

AN ACT to apply a portion of the proceeds of the public lands to the more complete endowment and support of the colleges for the benefit of agriculture and the mechanic arts established under the provisions of an act of Congress approved July second, eighteen hundred and sixty-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the Treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided to each State and Territory for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts now established, or which may be hereafter established,

in accordance with an act of Congress approved July second, eighteen hundred and sixty-two, the sum of fifteen thousand dollars for the year ending June thirtieth, eighteen hundred and ninety, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of one thousand dollars over the preceding year, and the annual amount to be paid thereafter to each State and Territory shall be twenty-five thousand dollars, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural, and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction: Provided, That no money shall be paid out under this act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in the admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such State or Territory be equitably divided as hereinafter set forth: Provided, That in any State in which there has been one college established in pursuance of the act of July second, eighteen hundred and sixty-two, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such State from its own revenue, for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the legislature of such State may propose and report to the Secretary of the Interior a inst and equitable division of the fund to be received under this act between one college for white students and one institution for colored students established as aforesaid, which shall be divided into two parts and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of eighteen hundred and sixty-two, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

SEC. 2. That the sums hereby appropriated to the States and Territories for the further endowment and support of colleges shall be annually paid on or before the thirty-first day of July of each year, by the Sccretary of the Treasury, upon the warrant of the Secretary of the Interior, out of the Treasury of the United States, to the State or Territorial treasurer, or to such officer as shall be designated by the laws of such State or Territory to receive the same, who shall, upon the order of the trustees of the college, or the institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the Secretary of Agriculture and to the Secretary of the Interior, on or before the first day of September of each year, a detailed statement of the amount so received and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grants: Provided, That payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof, duly certified to the Secretary of the Treasury.

Sec. 3. That if any portion of the moneys received by the designated officer of the State or Territory for the further and more complete endowment, support, and maintenance of colleges, or of institutions for colored students, as provided in this act, shall, by any action or contingency, be diminished or lost, or be misapplied, it shall be replaced by the State or Territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such State or Territory; and no portion of said moneys shall be applied, directly or indirectly, under any precense whatever, to the purchase, erection, preservation, or repair of any building or buildings. An annual report by the president of each of said colleges shall be

made to the Secretary of Agriculture, as well as to the Secretary of the Interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any experiment stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail free to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July in each year, after the passage of this act, the Secretary of the Interior shall ascertain and certify to the Secretary of the Treasury as to each State and Territory whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled, respectively, to receive. If the Secretary of the Interior shall withhold a certificate from any State or Territory of its appropriation the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the Treasury until the close of the next Congress, in order that the State or Territory may, if it should so desire, appeal to Congress from the determination of the Secretary of the Interior. If the next Congress shall not direct such sum to be paid it shall be covered into the Treasury. And the Secretary of the Interior is hereby charged with the proper administration of this law.

SEC. 5. That the Secretary of the Interior shall annually report to Congress the disbursements which have been made in all the States and Territories, and also whether the appropriation of any State or Territory has been withheld, and if so, the reasons therefor.

Sec. 6. Congress may at any time amend, suspend, or repeal any or all of the provisions of this act.

Approved, August 30, 1890.

EXTRACT FROM AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF AGRICULTURE FOR THE FISCAL YEAR ENDING JUNE THIRTIETH, EIGHTEEN HUNDRED AND NINETY-FIVE.

AGRICULTURAL EXPERIMENT STATIONS: To carry into effect the provisions of an act approved March second, eighteeu hundred and eighty-seven, enforce the execution thereof, seven hundred and forty-five thousand dollars, twentyfive thousand dollars of which sum shall be payable upon the order of the Secretary of Agriculture to enable him to carry out the provisions of section three of said act of March second, eighteen hundred and eighty-seven; and the Secretary of Agriculture shall prescribe the form of the annual financial statement required by section three of the said act of March second, eighteen hundred and eighty-seven; shall ascertain whether the expenditures under the appropriation hereby made are in accordance with the provisions of the said act, and shall make report thereon to Congress; and the Secretary of Agriculture is hereby authorized to employ such assistants, clerks, and other persons as he may deem necessary, and to incur such other expenses in traveling, stationery, and office fixtures as he may find essential in carrying out the objects of the above acts, and the sums apportioned to the several States shall be paid quarterly in advance. And the Secretary of Agriculture is hereby authorized to furnish to such institutions or individuals as may care to buy it copies of the card index of agricultural literature prepared by the Office of Experiment Stations, and charge for the same a price covering the additional expense involved in the preparation of these copies, and he is hereby authorized to apply the moneys received toward the expense of the preparation of the index.

REGULATIONS OF THE POST-OFFICE DEPARTMENT FOR THE FREE TRANSMISSION IN THE MAILS OF THE BULLETINS AND REPORTS OF AGRICULTURAL EXPERIMENT STATIONS UNDER THE ACT OF CONGRESS OF MARCH 2, 1887.

- (1) Any claimant of the privilege must apply for anthority to exercise it to the Postmaster General, stating the date of the establishment of such station, its proper name or designation, its official organization, and the names of its officers; the name of the university, college, school, or institution to which it is attached, if any, the legislation of the State or Territory providing for its establishment, and any other granting it the benefits of the provision made by Congress as aforesaid (accompanied by a copy of the act or acts), and whether any other such station in the same State or Territory is considered, or claims to be, also entitled to the privilege; and also the place of its location and the name of the post-office where the bulletins and reports will be mailed. The application must be signed by the officer in charge of the station.
- (2) If such application be allowed after examination by the Department, the postmaster of the proper office will be instructed to admit such bulletins and reports to the mails in compliance with these regulations, and the officer in charge of the station will be notified thereof.
- (3) Paragraph 3, section 419, Postal Laws and Regulations 1887, is hereby amended so as to read as follows:

"Only such bulletins or reports as shall have been issued after the station became entitled to the benefits of the act can be transmitted free, and such bulletins or reports may be inclosed in envelopes or wrappers, sealed or unsealed. On the exterior of every envelope, wrapper, or package must be written or printed the name of the station and place of its location, the designation of the inclosed bulletin or report, and the word 'Free' over the signature or facsimile thereof of the officer in charge of the station, to be affixed by himself, or by some one duly deputed by him for that purpose. There may also be written or printed upon the envelope or wrapper a request that the postmaster at the office of delivery will notify the mailing station of the change of address of the addressee, or other reason for inability to deliver the same, and upon a bulk package a request to the postmaster to open and distribute the 'franked' matter therein, in accordance with the address thereon.

"Bulletins published by the U. S. Department of Agriculture and analogous to those of the station, and entitled to be mailed free under the penalty envelope of that Department, may also be adopted and mailed by the several stations, with their own publications, under the same regulations, and any bulletins or reports mailable free by any agricultural experiment station under these regulations may be so mailed by any other station having free mailing authority.

"If such station's annual reports be printed by State authority, and consist in part of matter relating to the land-grant college to which such station is attached then said report may be mailed free entire by the director of the station; provided, in his judgment, the whole consists of useful information of an agricultural character."

The Post-Office Department has recently ruled that "in sending ont bulletins from an agricultural experiment station it is permissible to inclose postal cards to enable correspondents of the station to acknowledge the receipt of its publications and to request their continuous transmission."

(4) The bulletins may be mailed to the stations, newspapers, or persons to whom they are by the foregoing act authorized to be sent, and the annual reports to any address within the United States.

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RULINGS OF THE TREASURY DEPARTMENT AS TO THE CONSTRUCTION OF THE ACT OF CONGRESS OF MARCH 2, 1887, ESTABLISHING AGRICULTURAL EXPERIMENT STATIONS.

From copies of letters addressed to the Secretary of the Treasury and others by the First Comptroller of the Treasury, relating to the construction of the act of Congress of March 2, 1887, and acts supplementary thereto, the following digest has been prepared for the use of the stations. The sections are those of the act, the dates those of the decisions by the Comptroller:

Section 3-January 30, 1888.

That the annual financial statement of the stations, with vouchers, should not be sent to the Treasury Department, but that a copy simply of the report that is made to the governor is to be sent to the Secretary of the Treasury.

Section 3-January 31, 1888.

First. That the Treasury Department will not require officers of experiment stations to do or perform anything not specifically required by said hill.

Second. That the Secretary of the Treasury is not required to take a bond of the officers of said stations for the money paid over under the provisions of said act.

Third. That no reports will be required from the stations directly to the Secretary of the Treasury; but the governor of the State must send to the Secretary of the Treasury a copy of the report made to him by the colleges or stations.

Section 5-March 4, 1887.

"Congress only intended by the expession 'the sum of fifteen thousand dollars is hereby appropriated to each State,' to fix the amount that could be specially provided for by Congress in appropriations from year to year. Hence I conclude that section 5 does not make an appropriation; but that the same must be specially provided for by Congress."

Sections 5 and 6-March 10, 1888.

- (1) The appropriations are intended for the fiscal year and not the calendar year.
- (2) The first annual report should he made on or before the 1st day of February, 1889, and said report should include simply the operations of the preceding fiscal year, not down to and including December 31, but up to an including June 30, 1888.
- (3) The balance unexpended at the end of the fiscal year, the 30th of June preceding the report, must be accounted for in the report.
- (4) The one fifth proviso for building in section 5 can be made out of the first annual appropriation, to wit, that which commences on the 1st day of July, 1887, and terminates on the 30th of June, 1888.
- (5) The intention of Congress was to make quarterly payments, not in advance, but at the end of cach quarter.

Section 5, proviso-March 22, 1888.

"I have been informed that there is no farm connected with the agricultural college in Delaware. The act provides that one-fifth of the amount appropriated can be expended in the creation, enlargement, or repair of a building or buildings for carrying on the work of the station receiving the appropriation. I am in doubt whether, with this qualification, out of the balance of the appropriation a farm could either be purchased or rented. Another question in my mind is as to the competency of the legislature which was in session at the date of the passage of the act to accept, as it assumed to do, of the provisions of the act, the ninth section of which provides that 'Payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature meeting next after the passage of this act shall be made upon the assent of the governor thereof duly certified to the Secretary of the Treasury."

Section 6-April 24, 1888.

At the end of the present fiscal year, to wit, June 30, any portion of the \$15,000 which shall have been received, up to and including the payment made on the 1st day of July, which is unexpended, or which may not be necessary to pay claims under contracts made for the benefit of said agricultural station, must be deducted from the next annual appropriation, as specified in said sixth section.

Section 6-August 2, 1888.

The fiscal year commences on the 1st day of July, corresponding with the fiscal year of the Government.

An agricultural station entitled to the benefits of said appropriations made by Congress can anticipate the payment to be made July 1, and make contracts of purchases prior to that time, if it shall be necessary to carry on the work of the station. Of course no portion of said appropriations paid in quarterly installments can be drawn from the Treasury unless needed for the purposes indicated in the act; and so much of what is so drawn as may not have been expended within the year must be accounted for as part of the appropriation for the following year.

Section 8-January 30, 1888.

The State of New York ought to designate whether to the college or to the station, or to both, it desires the appropriation to be applied. The eighth section of the act seems to authorize the State to apply such benefits to experimental stations it may have established as it desires.

Where there are no experimental stations connected with the colleges, the legislatures of such States must connect the agricultural experiment stations with the colleges already established under the act of July 2, 1862; there is no authority in the act authorizing the establishment of agricultural experiment stations independent of said colleges.

The aet contemplates that where stations have already been established disconnected from the colleges, the legislatures of such States may take such provisions in regard thereto as they may deem proper; but it does not authorize the establishment of stations except in connection with the colleges that were at that time or might thereafter be established under the act of July 2, 1862.

Section 8-February 14, 1888.

Where there is an agricultural college or station which may have been established by State anthority, and is maintained by the State, the eighth section of the above act would anthorize the State to designate the station to which it desired the appropriation to be applied, whether to one or more, or all, and the Secretary of the Treasury should make the payment under the appropriation to whichever one the State might designate.

Sections 1 and 8-February 15, 1888.

- (1) When an agricultural college or station has been established under the act of July 2, 1862, each college is entitled to the benefits of the provisions of said act (i. e., of March 2, 1887).
- (2) In a State where an agricultural college has been established under the act of July 2, 1862, and agricultural stations have also been established, either under the act of July 2, 1862, or by State authority, before March 2, 1887, the legislature of such State shall determine which one of said institutions, or how many of them, shall receive the benefits of the act of March 2, 1887.
- (3) If the legislature of any State in which an agricultural college has been established under the act of July 2, 1862, desires to establish an agricultural station which shall be entitled to the benefits of said act, it must establish such station in connection with said college.

Proviso to section 1 and section 8-December 7, 1888.

It is within the power of the legislature of any State that has accepted the provisions of said act of March 2, 1887, to dispose of the amount appropriated by Congress for said station to either one or all of the agricultural colleges or station which may have been established in said State by virtue of either the provisions of the act of July 2, 1862, or the provisions of said eighth section of the act of March 2, 1887.

The whole responsibility rests upon the State legislature as to how the fund appropriated by Congress shall be distributed among these various institutions of the State, provided there is one or more agricultural colleges with which an agricultural station is connected, or one or more agricultural stations.

Section 8-January 28, 1889.

The act of the State of Georgia in authorizing the governor to receive the fund to which the State may be entitled under the act of March 2, 1887, is not in conflict with any of the provisions of said act. If a State has established an agricultural college or station under the act of July 2, 1862, or if it has established an agricultural station in connection with said college, as provided in the eighth section of the act of March 2, 1887, the legislature can authorize some person or persons to receive the money donated by the Government and direct its application in such way and manner as it seems best to carry out the objects and purposes of said acts of Congress to either the colleges or the station, or to both.

Section 9-February 4, 1888.

It appears by the statement of Representative Blount that there was a session of the legislature of the State of Georgia after the passage of the act and before the first payment became due, October 1, 1887, and which did not adjourn until after that time. That being the case, under the proviso of the section, the governor of the State can not assent to that payment, which was to be made October 1, 1887. The legislature having adjourned before the second payment became due, without accepting the provisions of the bill, no further payment can be made to said State until the legislature thereof shall have accepted the provisions of the bill. You will observe the language of the proviso, "that payments of the installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its legislature "applies, certainly, only to such installments as become due before the final adjournent. The idea seems to be to give the legislature the full time before it adjourns to accept the provisions of the bill or not; but it is plain to my mind that only such payments as become due before the adjournment of the legislature can be accepted by the governor of the State.

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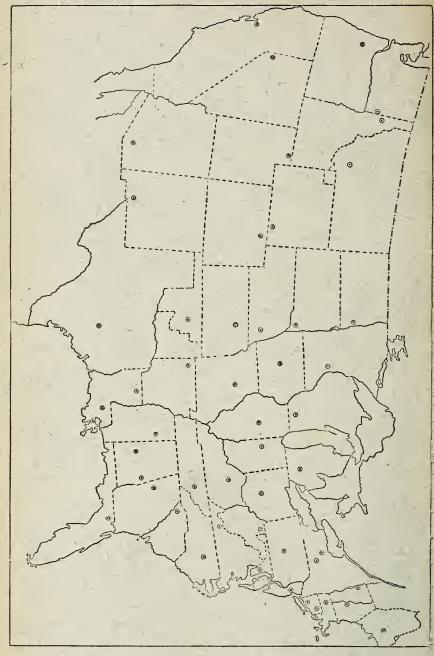
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